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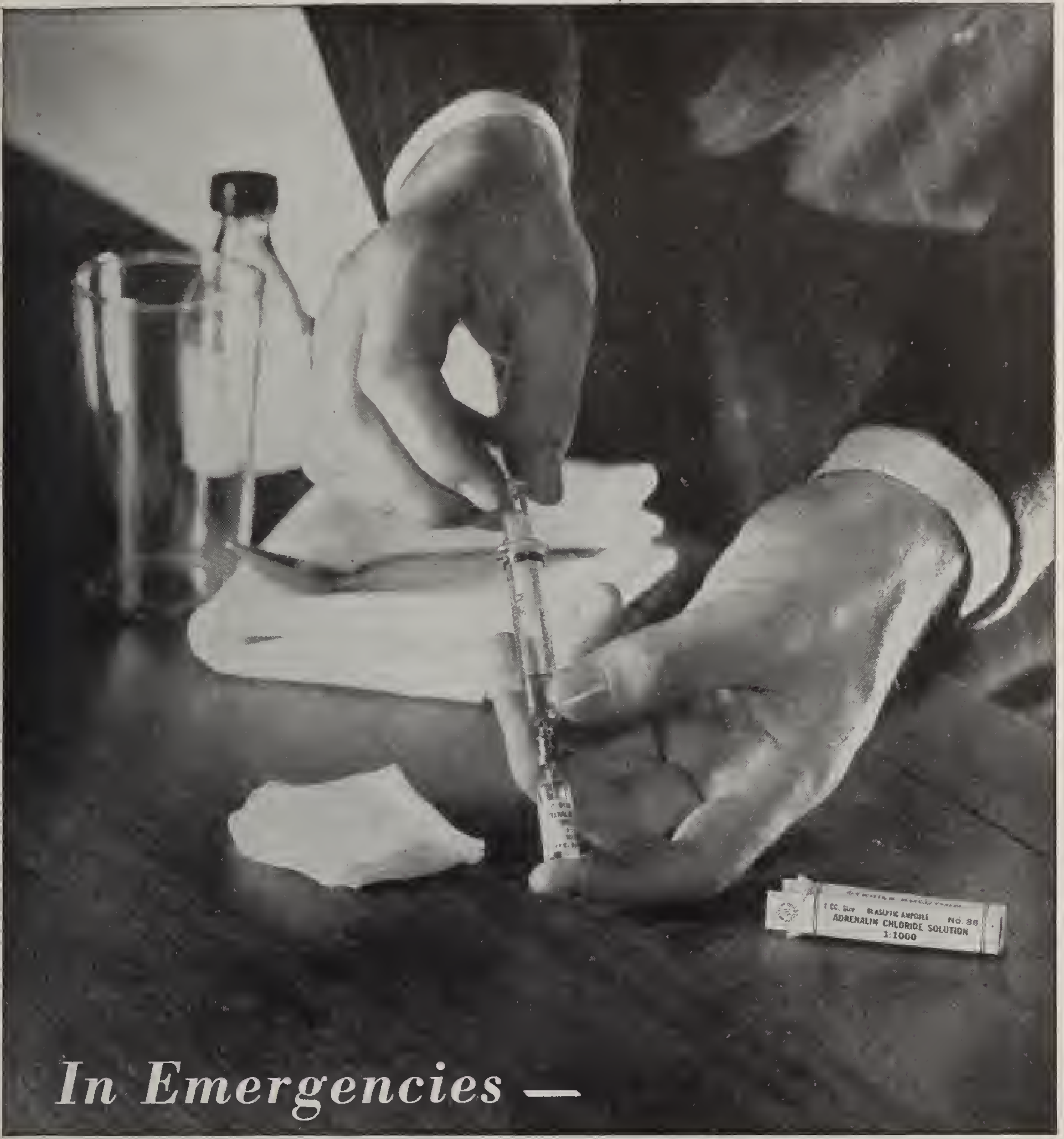

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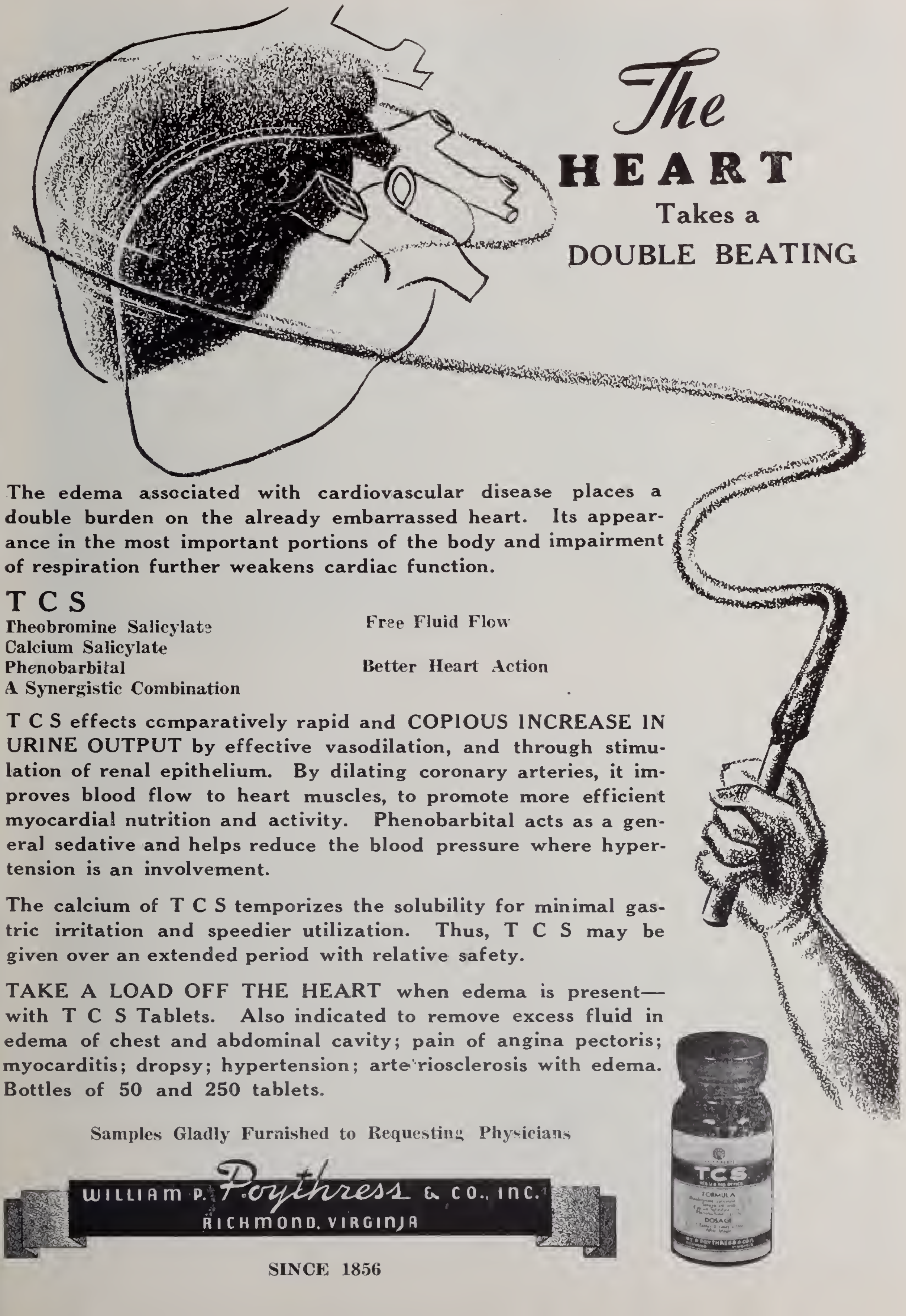

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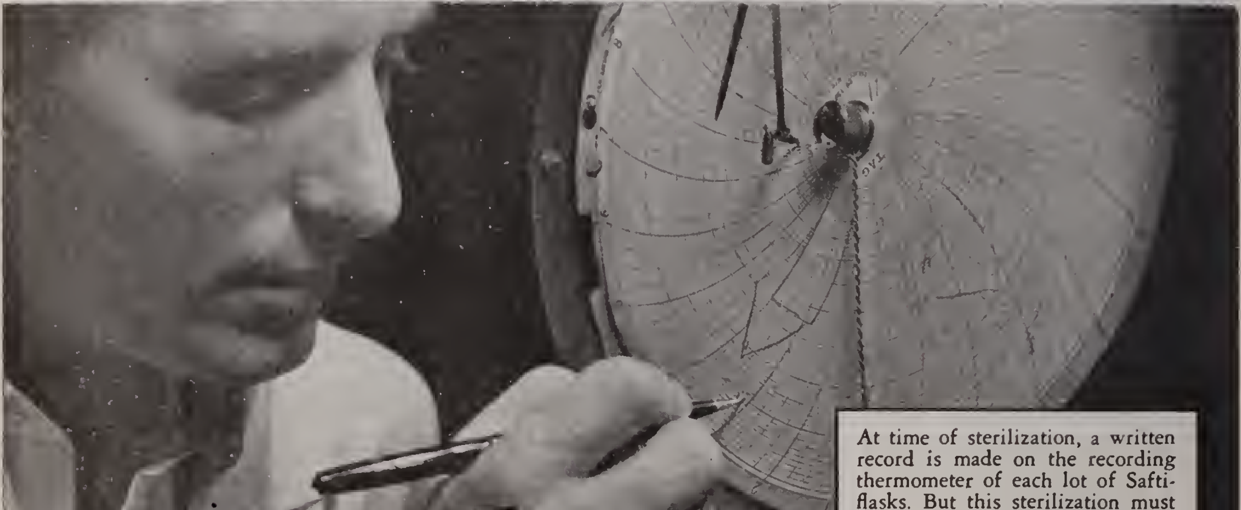

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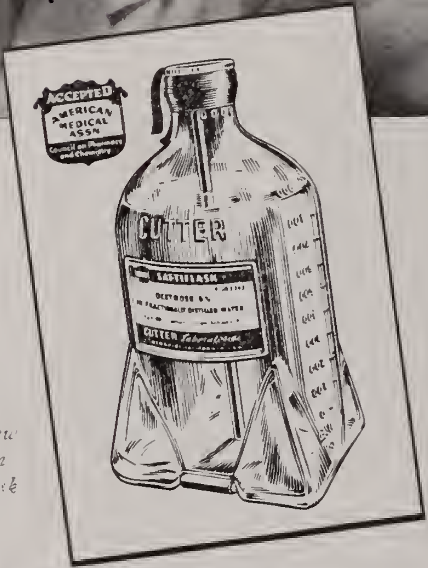

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Complications and Sequelae of Obstructive Jaundice With Special Reference to the Hemorrhagic Diathesis*

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THE complications which are the principal obstacles to recovery in cases of obstructive jaundice have long presented serious problems to the operating surgeon. It is often difficult to see why, in two cases in which lesions of the bile passages are comparable and jaundice is of the same degree and duration, one patient would fail to survive while the other recovered almost without incident. The liver is so resistant to ordinary insults and its powers of regeneration are so great that one might reasonably expect recovery to occur in a large majority of cases once the obstruction to biliary flow has been removed. The deciding factor lies, as a rule, in the matter of complications and the success with which they can be treated. In reviewing our statistics at the Mayo Clinic it has been apparent that the two greatest handicaps to recovery have been (1) the development of hepatic insufficiency, and (2) a hemorrhagic diathesis, of the type which has been described as cholemic. It was formerly believed that these conditions were due to the presence of some component of bile or disintegrating liver tissue in the blood, a view which has now been largely discarded. Both conditions are now thought to depend on anatomic injury of the liver and on suppression of certain of its important physiologic functions. The mechanism involved will be considered in subsequent paragraphs.

HEPATIC INSUFFICIENCY

The nature of hepatic insufficiency, like that of its counterpart, the uremic state, is not well understood. It differs widely from the syndrome produced by total hepatectomy; hypoglycemia is rare and in only a few instances has it been possible to demonstrate some failure in deaminization or an elevated concentration of uric acid in the blood. Fatty change in the liver may be suggested by a very high concentration of fats in the plasma; more frequently, however, the lipid substances of the plasma may decrease to low levels and the cholesterol esters may virtually disappear. The excretory functions, particularly in respect to dyes and bilirubin, always are impaired, but this fact may not be as important as first was supposed. None of the disturbances in metabolism which have been mentioned is necessarily serious or fatal; one must look elsewhere for the mechanism by which hepatic failure causes death. The clinical syndrome itself often suggests that perhaps hepatic insufficiency represents failure of normal processes of detoxification. The liver is the first line of defense against many toxic substances; when its functions in this respect fail, the load falls on the kidneys. Although complete proof is lacking, it is justifiable to assume that the syndrome of "hepatic insufficiency" is fundamentally dependent on a failure of the mechanisms of detoxification.

The known chemical changes of the blood in cases of experimental and clinical hepatic insufficiency may be stated briefly. Hemoconcentration with an associated fall in the concentration of chlorides of the plasma, the development of acidosis, and an increased concentration of lactic acid in the blood have been noted in animals but these are seen very rarely among human beings. Elevation of the concentration of urea and non-protein nitrogen in the blood are late developments and, presumably, depend on renal failure rather than on primary hepatic insufficiency. Acidosis as shown by low carbon dioxide combining power of the plasma, has been observed clinically and elevation of the concentration of lactic acid of the blood also has been noted. Anoxemia also has been described, a phenomenon which may be of some importance. A number of investigators have demonstrated the sensitivity of the liver to lack of oxygen. The nature of the anoxemia in hepatic disease has been shown to depend on a decrease in affinity of hemoglobin for oxygen. Whether this can be attributed to some fundamental peculiarity of the hemoglobin or to the admixture of other substances in the blood is as yet undetermined.

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*Read before the fifty-fourth annual session of the Mid-South Postgraduate Medical Assembly, Memphis, Tennessee, February 14 to 17, 1939.

INSUFFICIENCY

As one may infer from this description, there are no laboratory findings that are pathognomonic of hepatic insufficiency, and diagnosis depends to a large extent on clinical judgment. In the cases in which the insufficiency occurs after operation, the first signs of danger are indications of a reduction in urinary output or of bile flow, if external drainage has been instituted. Deepening jaundice, lethargy and stupor are also seen. There is also a curious change in the color of jaundiced skin, which may assume a distinctly orange-reddish cast. It has long been known that the patients most likely to have this condition after operation are those who have complete biliary obstruction as a result of a neoplasm or who have had marked injury to the parenchyma of the liver because of long-standing, intermittent biliary obstruction and infection. Some prognostic value may be attached to the results of the hippuric acid test for liver function; this test is specifically designed to measure the detoxifying functions of the liver and may in this way give valuable information as to the prognosis of hepatic insufficiency. Failure of the serum bilirubin content of the serum to decline after obstruction has been relieved is also of ominous significance.

Prompt action and early recognition of this state results in the saving of many lives. Treatment depends primarily on the maintenance of an adequate intake of carbohydrate, the administration of sufficient quantities of fluid to dilute and eliminate toxins, and the correction of hypoglycemia, anoxemia or hemoconcentration, if these happen to be features in the particular case. The intake of carbohydrate, as a rule, can be maintained in such cases only by the persistent intravenous administration of d-glucose daily. It is probably that little glycogen is formed by the liver after intravenous administration of d-glucose when lethal intoxication is present, but in the presence of sublethal intoxication, formation of glycogen seems to proceed at a more satisfactory rate when d-glucose is given by vein than when equal amounts are given by mouth.

D-glucose therapy, although not spectacular, is extremely valuable; Jones' figures indicate that among patients who have hepatic insufficiency and who have received d-glucose intravenously for a period of ten days or longer, the mortality rate is 22 per cent. In view of the fact that hepatic insufficiency has been regarded as an almost invariably fatal condition, these results are most encouraging. The amount of d-glucose to be administered depends on whether or not the patient is able to take food by mouth. From 1 to 3 liters of a solution of 5 to 10 per cent d-glucose can and should be administered daily and in some cases even larger amounts have been given by continuous venoclysis.

So far as other abnormal chemical conditions of the blood are concerned, hemoconcentration usually is corrected by administration of fluids in the manner described. If the concentration of chlorides in the plasma is low it is a relatively simple matter to administer additional sodium chloride along with the d-glucose. It is important to maintain the concentration of hemoglobin at a normal level by repeated small transfusions. Correction of the anoxemia is assisted materially by such transfusions, both the oxygen capacity and the percentage of oxygen saturation of hemoglobin in arterial blood are definitely improved by the addition of normal blood. In the exceptional case in which marked cyanosis and hyperpnea are present, oxygen therapy may be valuable.

One often sees patients whose condition is extremely poor, who have been saved by the methods of treatment that have been mentioned. Patience, persistence, and an optimistic attitude are particularly to be recommended.

HEMORRHAGIC DIATHESIS AND ITS TREATMENT

In 1887 E. S. Smith, in discussing operations for the relief of obstruction of the common bile duct, said that "the most common cause of death is collapse, or collapse accompanied with hemorrhage, to which cholaemic individuals are peculiarly liable." In the fifty years since this observation was reported numerous attempts to explain the cause of the hemorrhagic diathesis in cases of jaundice have been made and many therapeutic procedures have been advanced for its control.

It is clear that the hemorrhagic tendency in cases of jaundice cannot be attributed to a deficiency of calcium, fibrinogen or thromboplastic substances, and it seems equally certain that the regurgitation of bile into the blood stream cannot be held responsible. The idea that hemorrhage might be due to a deficiency of some protective substance normally absorbed from the intestinal tract dates from the pioneer work of Dam, who in 1935 reported his observations on chickens fed diets that were deficient in certain fat-soluble substances. In these instances a hemorrhagic syndrome developed; this was characterized by bleeding from the pin feathers, hemorrhage in the subcutaneous tissues and in the gizzard. The condition was corrected promptly by the administration of the unsaponifiable portion of hog liver fat. This protective, fat-soluble material was tentatively designated by Dam as vitamin K (koagulations vitamin). The hemorrhagic tendency in chickens deprived of vitamin K has been shown to be due to a deficiency of prothrombin, a component of normal plasma, known physiologically by its capacity for forming thrombin.

Although methods for measuring the prothrombin content of plasma have been little used, within the past few years several conditions have been reported in which there apparently is a diminution in the concentration of prothrombin in the plasma. In addition to the deficiency which occurs in chicks fed diets lacking in certain fat-soluble substances, prothrombin deficiency occurs in experimental animals with external biliary fistulas, in dogs whose livers have been injured by chloroform and in cattle fed toxic sweet clover hay. Recently, Quick, Butt and his co-workers, Dam and Glavind, and Warner, Brinkhous and Smith have shown that the hemorrhagic tendency associated with obstructive jaundice also depends on a lack of prothrombin. All of these conditions are associated with a well-marked hemorrhagic tendency and it is interesting to note that in each of these examples of prothrombin deficiency there is either an exclusion of bile from the bowel, injury of the liver by toxic substances, or a state of nutritional deficiency.

One may say, therefore, that hemorrhage in the presence of jaundice is a manifestation of a state of deficiency characterized by the lack of prothrombin in circulating blood, which in turn is due to failure of absorption of anti-hemorrhagic substances into a physiologically active product (prothrombin) by the liver. There are four fundamental factors which are therefore necessary in order to avoid a deficiency of prothrombin: (1) a normal diet containing vitamin K; (2) the presence of bile of normal composition in the intestinal tract; (3) a normal intestinal surface for absorption and (4) a physiologically normal liver. How these factors apply to the treatment of the hemorrhagic diathesis in cases of jaundice will be considered in subsequent paragraphs.

The direct mortality from postoperative hemorrhage among jaundiced patients who have had the advantage of preoperative treatment with d-glucose, calcium salts and transfusion has been about 5 per cent.

There is now reason to believe that the application of newer methods of treatment, based on the existence of a deficiency state in such cases, will reduce this figure materially. The types of biliary obstruction and hepatic disease most commonly responsible for serious hemorrhage are well known. Complete biliary obstruction produced by neoplasm of the pancreas, ampulla and gallbladder heads the list. Postoperative strictures of the common bile duct shows perhaps the second highest incidence of bleeding, with intermittent obstruction caused by the presence of stone ranking third. Complete external biliary fistulas are relatively rare but are often associated with bleeding. These are: (1) more or less complete exclusion of bile from the intestines, (2) the secretion of bile with a low content of bile acid, and (3) variable degrees of hepatic injury.

Recent reports by a number of investigators indicate that the administration of vitamin K and bile salts will effectively prevent and control the hemorrhagic diathesis in most cases of jaundice and hepatic injury. By using protective material obtained from putrified fish meal or from concentrates of alfalfa, in doses of 3 to 15 grains (200 to 1000 mg.) daily, together with bile salts in doses of 15 to 60 grains (1 to 4 gm.) daily, very rapid and satisfactory effects on the coagulation of blood have been secured. This material has been administered by mouth or, in the case in which there is active bleeding, by tube directly into the stomach or duodenum.

In order to use this method of treatment intelligently one must have a satisfactory method for measuring the concentration of prothrombin in the circulating blood. The old methods of studying coagulation of the blood gave little information until the blood became practically incoagulable. Three methods are now available: The first is the method of Quick and his co-workers, which is well adapted for the clinical laboratory and is at present the method of choice. This depends on the clotting time of recalcified plasma to which thromboplastin has been added. Since many investigators have shown that fibrinogen is not lacking in cases of jaundice, Quick's method leaves prothrombin as the only variable. The test is simple and gives clinically constant results. The term prothrombin time as used hereafter refers to the clotting time of plasma as measured by Quick's method.

The third method, that of Dam and Glavind, is a modification of that of Fischer and depends on somewhat the same principle as that of Quick.

In the preoperative treatment of patients who have jaundice, three types of patients may be considered: (1) those who have normal prothrombin time, (2) those who have a prolonged prothrombin time, and (3) those who are experiencing active bleeding. The first type needs prophylactic treatment only, whereas the condition of the remaining two types constitutes a potential or real emergency. For prophylactic use in cases of jaundice in which operation is contemplated, 2 to 6 gelatine capsules (each capsule containing 3 grains, 200 mg., of alfalfa concentrate and 15 to 30 grains (1 to 2 gm.) of animal bile salts, administered by mouth, seem to be an adequate daily dose.

For the patients of group 2 (patients who have preoperative jaundice with prolonged prothrombin clotting times) more vigorous treatment may be required. Thus, larger doses of concentrates of vitamin K should be given in addition to the bile salts and such treatment should be continued until the prothrombin clotting time is normal. Almost any type of animal bile can be used; human fistula bile is also very satisfactory. It is sometimes necessary to administer concentrate of vitamin K together with bile salts by duodenal tube or through a T tube. In such instances, 2 to 4 gm. (30 to 60 grains) of water-soluble bile salts is dissolved in 250 to 500 cc. of warm physiologic saline solution or tap water, and to this is added 5 to 30 grains (1 to 2 gm.) of the concentrate of alfalfa, which contains the antihemorrhagic vitamin. The mixture is shaken frequently and thoroughly and is administered slowly, over a period of thirty to sixty minutes, through the tube by the drip method; care must be taken to keep the solution warm and well mixed. When such large doses are used, the prothrombin clotting time usually decreases within six to twelve hours but in an exceptional case it may be necessary to repeat this procedure one or more times before the hemorrhage is controlled.

POSTOPERATIVE USE OF VITAMIN K

In a large majority of cases of jaundice, bleeding, if it occurs, usually appears between the first and fourth postoperative days; however, it may occur as late as the seventh, eighth, ninth or tenth days after operation. From the various studies of Warner and his associates, it appears that bleeding in experimental animals occurs when the concentration of prothrombin decreases to 20 to 25 per cent of the normal amount and that, conversely, as long as the concentration remains at a higher point bleeding does not occur. In human beings the danger zone is less clearly defined. Loss of blood, surgical trauma and the effects of anesthesia may reduce an already depleted supply of prothrombin to a dangerously low level. The prothrombin time may, and frequently does, increase within six to eight hours and with this increase free bleeding may occur without warning.

From our present knowledge it would seem that after operation the prothrombin time should be determined daily for the first four days and then every other day for at least another four days. In those cases in which prothrombin time before operation has been prolonged, it is safer to give concentrates of vitamin K and bile salts daily for several days after operation, regardless of the prothrombin time. One may safely say that a patient who has prothrombin time of more than forty-five seconds must be considered as a potential bleeder and should be treated as such.

The problem of treatment of patients who are actively bleeding is a difficult one. The gastro-intestinal tract often is filled with clotted blood, which must be removed by lavage before adequate absorption of the antihemorrhagic vitamin can occur. In addition, one is faced with the problem of shock and dehydration. In such cases a transfusion of blood is necessary, although as far as hemorrhage is concerned, the duration of its effect will only be for the period during which the concentration of prothrombin is maintained above the critical level.

Summary

The most serious handicaps to recovery in the patient with obstructive jaundice are hepatic insufficiency and the hemorrhagic diathesis. The first depends on anatomic injury of the liver and on interference with the physiologic capacity of the organ for detoxification. A high carbohydrate diet and free administration of d-glucose, intravenously, protect the liver to some extent; correction of the abnormal composition of the blood, which sometimes occurs in these cases, is also necessary.

The hemorrhagic diathesis in cases of jaundice depends on prothrombin deficiency which is due to : (1) exclusion of bile from the bowel, and (2) failure of the liver to form prothrombin. The condition can be satisfactorily corrected in most instances by the administration of vitamin K or bile salts. It is important to recognize these conditions as early as possible because of the extreme difficulty of treating patients who are actively bleeding.

Medical Ophthalmology*

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Medicine has advanced by leaps and bounds during the past 25 years and the development of biochemistry, the laboratory, and the x-rays have played a leading part. However, the outstanding clinician today in every medical community is one who, while he knows how to evaluate these findings, depends largely upon his clinical experience and what he can see, feel and hear.

The ophthalmoscope in medicine, neurology and obstetrics often gives the physician more valuable information than any other single examination, and yet how few men do we see taking advantage of this particular diagnostic aid.

It would be impossible to discuss all the diseases in which the ophthalmoscope would be of clinical value, therefore, I must limit my discussion and for this short period would like briefly to discuss hypertension and encephalitis.

The ophthalmoscope in the hypertensive states gives at any period more valuable aid than the sphygmomanometer, though in a study of hypertension the two examinations are inseparable. Surely there can be no more fascinating study than the changes one sees developing in the arteries, veins, nerve head and retinae in hypertensive diseases.

The hypertensive states may be classified as toxic, renal and non-renal. In the toxic group belong the toxaemias of pregnancy; the renal group is that occurring in various types of nephritis; glomerulonephritis, pyelonephritis, multiple cysts of the kidney, periarteritis nodosa of the renal vessels and amyloid kidney; in rare cases hypertension may be traced to adrenal tumors, basophilic adenoma of the pituitary or increased intracranial pressure. The most important of the non-renal group is called essential hypertension. This group comprises 80 per cent of all the hypertensive states; it has been divided into benign and malignant.

Richard Bright over one hundred years ago described as accurately as most of our descriptions today the hypertension and enlargement of the left side of the heart occurring in nephritis, and for one hundred years the general accepted view was that of Bright, that renal disease was responsible for hypertension. Albutt of England and Janeway of America a hundred years after Bright were the first to call our atention to the fact that 80 per cent of hypertensive states were unrelated to kidney disturbance, and that this disease was associated with a sclerosis of the arterioles and not an involvement of the larger arteries. Thus developed the term arteriolar sclerosis. At this time Volhard and Fahr thought the hypertension was the cause and not the effect of the arteriolar sclerotic kidney and the term nephrosclerosis was introduced. The recent experimental work of Goldblatt attempts to show that after all Bright was correct in assuming that the kidneys are responsible for the hypertension. He produces an ischemia of the kidneys by constricting the renal arteries to a varying degree and typical hypertension develops according to the degree of constriction. These experiments to my mind show that a damaged kidney may produce hypertension, but you can't get around the fact that in them the mechanical spasm of the artery comes first.

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Mylieus and Wagener in recent years were the first to call our attention to actual spasms which could be seen occurring in the arterioles of the fundus in acute hypertensive disease, therefore, clearly establishing that all hypertensive states might be brought on by an angiospasm. Angiospasm explains the marked fluctuations in blood pressure seen in early hypertension and many other phenomena such as temporary aphasia, some hemiplegia and various paralyses occurring which so rapidly clear up.

Wagener and Hallum have most clearly described the changes which occur in toxaemia of pregnancy and no good obstetrician today could afford to treat such a case without the aid of the ophthalmoscope. The changes first seen in the beginning of toxemia are spasm of the vessels which may be single or several, or the whole vascular arterial tree may become spastic. As the toxaemia becomes more severe retinal hemorrhages and exudates occur and still later oedema of the nerve head and retinae, rarely detachment of the retinae. Wagener has shown the importance of early detection of spasm, since definite organic changes may begin as early as ten days in a spastic vessel. If the spasm is allowed to continue, it will cause permanent changes in the vessels, thus leaving the patient a permanent hypertensive case. If after quiet and rest in bed, the retinal changes increase, the uterus should be emptied at once.

Hypertension occurring in acute or chronic nephritis if seen early may show the same changes observed in toxaemia of pregnancy, namely, the angiospasms of the retinal arterioles, and the same observations have been made in benign or malignant essential hypertension, so that it would seem logical to believe that almost all hypertensive cases are produced primarily by some vasomotor phenomena. The exact mechanism of this vasoconstriction is not known; certainly it would seem that some chemical circulating in the blood stream stimulates the vasomotor centers which are believed to be in the hypothalamus; and this chemical might come from disease of the kidneys, the adrenals, the pituitary gland or a diseased placenta.

The most important of the hypertensive group is the essential hypertension which comprises 80 per cent of all the hypertensive groups. This group is characterized by a high systolic and unusually high diastolic without any apparent serious damage to the kidney. The arteriolar sclerotic kidney until recently was thought to be the cause of hypertension. Now it is thought generally to be the effect. The majority of these hypertensive patients die with some cardiac or cerebral accident without showing any significant kidney insufficiency.

Malignant hypertension is much less common and may be seen frequently in young adults and it is an interesting fact that in our clinics it is much more prevalent in the colored race. The clinical course of this group is very rapid and they early show kidney involvement and most severe eye changes. These patients usually die within a few months, few live longer than two years, and all die of uremia.

The study of the fundus changes occurring in all hypertensive states may be discussed together since they are all essentially the same.

The terminology has not been classified until within recent years. The term albuminuric retinitis used to express the lesion seen in hypertension, now has become obsolete, and likewise a later term, cardiovascular renal changes. One using such a term felt safe in that nothing was missed.

The lesions which are familiar to us today are primarily the result of the arteriolar disease since we know that fundus lesions are rare in kidney disease without hypertension.

The same can be said of diabetes though fundus changes do not occur until an arteriolar sclerosis makes its appearance. The most common lesion seen is that of arteriolar sclerosis and that is to be expected since 80 per cent of all hypertension belongs to the benign group; one most frequently follows such a case until death from a cardiac or cerebral accident without ever finding any changes in the fundus except the arteriolar disease. Possibly too now and then a few flame-shaped hemorrhages or a partial central vein thrombosis, the thrombosis within itself having no clinical significance, may be seen. I am convinced, however, when oedema of the nerve head or retina with exudates makes its appearance it is definite evidence that there is some toxic element being introduced, most likely from the kidney even though the kidney functional tests may be perfectly normal, or who knows but that a damaged liver, spleen or pancreas may play a part? Certainly Goldblatt's experiments do show that the marked fundus changes do not occur until much kidney damage has been accomplished.

The following terms may be used to describe clearly the conditions which are present in hypertensive diseases:

1. Hypertensive arteriolar angiospasm.
2. Hypertensive arteriolar sclerosis which should be classified into grades I, II, III, IV.
3. Hypertensive neuroretinopathy.

The above terms certainly more clearly describe the lesion, since the changes which occur in the retina are not inflammatory.

The arteriolar changes are the most common. Angiospasms may be seen in toxaemia of pregnancy, acute or chronic glomerulonephritis. The spasms may be confined to one small segment of a vessel, may be multiple or may involve the whole vascular tree. It is not unusual to see these spasms vary from day to day or even certainly disappear. It is said by Wagener that if a spasm exists for longer then ten days, definite organic changes begin to appear in the vessel.

Arteriolar sclerosis is characterized by a narrowing or an irregularity of the blood column. The reflex stripe becomes more conspicuous, and the most important sign is the nicking of the vein by the artery at the crossings, called arteriovenous compression. As this process continues one finally sees an obliteration of some of the arteries, reaching the fourth stage, an endarteritis obliterans. There may occur at any stage of the arteriolar disease small flame-shaped hemorrhages which probably occur more frequently during sharp or sudden upshoots of the systolic and diastolic pressure. Such hemorrhages may entirely disappear after periods of rest in bed, and are not a bad prognostic sign.

When a benign hypertension begins to develop, changes in the kidney begin or it becomes malignant and in a true malignant case, the fundus picture definitely changes in that oedema of the nerve head and retina makes its appearance. Usually associated with this oedema there are more hemorrhages in the retina and exudates also appear. The oedema of the nerve head may be severe and in some cases increased intracranial pressure is a factor in the development of much of the oedema of the nerve head.

Certainly most of us do agree that when the oedema and exudates appear it is a bad prognostic sign.

In closing this brief discussion of hypertensive disease let me again emphasize the importance of an ophthalmoscopic examination.

I want to discuss briefly with you another interesting group presenting definite eye changes, namely, encephalitis. Until we know more definitely concerning the etiology I should like to classify the various types of encephalitis and the demyelinating diseases such as, acute multiple sclerosis, neuromyelitis optica, and encephalitis periacialis diffusa, as belonging to the same family and probably all being due to some virus infection.

In 1918 and for a few years we saw many cases of encephalitis lethargica and most of these cases presented extraocular paralysis of various types, occasionally a paralysis of accommodation. It was extremely rare to see a swollen nerve head but when it did occur it was a rather severe type of optic neuritis with a central scotoma. More rarely one saw a true retrobulbar neuritis, that is, a central scotoma with a normal fundus.

Acute multiple sclerosis has been described with various types of eye lesions but the same type of acute optic neuritis with a central scotoma has not infrequently been reported.

Neuromyelitis optica has been more recently described and almost always associated with it there has been described an acute optic neuritis with a central scotoma. The optic neuritis may precede the myelitis by days or even weeks.

Within the past five years we have seen fifteen or more cases of severe optic neuritis having all the clinical appearance of these other reported cases without showing any other neurologic findings. Most of these cases occur in a definite age group from eight to nineteen years, and almost invariably occur in the late summer months. All cases suddenly go blind in one or both eyes, similar to neuromyelitis optica, and the swelling of the nerve head subsides within one to three weeks, usually leaving a marked consecutive optic atrophy and marked impairment of vision, and in many cases blindness. Certainly such a clinical picture indicates an inflammatory disease and we believe probably of virus infection.

Since so many cases of encephalitis and the so-called demyelinating diseases present an optic neuritis having the same clinical picture and leading to such disastrous results it behooves all of us to examine the fundus in such cases more carefully.

Recent Advances in Laboratory Diagnosis of Intestinal Parasites and Their Treatment*

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In presenting this paper I wish to express my appreciation to a co-worker, Miss Hannah Nickel for most of the work done in the preparation of the paper. Also, I wish to express appreciation to Dr. Ernest Carroll Faust, Professor of Parasitology of the School of Medicine, Tulane University, and Dr. Joseph S. D Antoni and Dr. Willii Swaitz of the Department of Tropical Medicine, School of Medicine, Tulane University, for the use of manuscripts and lantern slides used in the preparation of this paper.

PARASITES ENDEMIC TO THIS AREA

The Southern States have long been known to be rich in intestinal parasitic infections both pathogenic and non-pathogenic for man. Even with the large amount of work that has been done on heavy endemic areas along lines of diagnosis, treatment and other control measures, the incidence of the various pathogenic infections is still much higher than many medical workers believe it to be.

In Mississippi we have to consider two groups of intestinal parasites, the helminths and the protozoa. Of the intestinal protozoa commonly found in this section, only one demands any clinical consideration. This is Endamoeba histolytica. Other protozoa are more numerous and are reported from the State Hygienic Laboratory only because they serve as an aid to the physician by furnishing an index to the general hygiene of the patient, since these infections are contracted in the identical manner of the pathogenic Endamoeba histolytica and enteric bacilli.

All helminthic infections are pathogenic. Our most common offender is hookworm. Next in order of frequency are Enterobius vermicularis and Hymenolepsis nana. Also to be considered in this area are Ascaris lumbricoides, Trichocephalus trichiura, Strongyloides, stercoralis and occasionally the Taenia (large tapeworm) group.

All these infections may be diagnosed by the recovery of the characteristic eggs in the stool with the exception of Strongyloides stercoralis. This is diagnosed by the motile larvae. Strongyloides has not been found frequently in this section, but its accurate diagnosis when it does exist is necessary, since it may be confused with hookworm larvae, and in that event the treatment instituted will be of no avail.

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*Read before the Central Medical Society, Feb. 7, 1939, Jackson, Miss.

Taenia (beef and pork tapeworm) eggs are easily recognized by an experienced worker, but species identity is impossible without an examination of a proglottid of the worm. The seriousness of a Taenia solium infection is too grave to warrant its being handled as a saginata infection due to a technician's idea that she can distinguish the two by the ova. The leading helminthologists do not claim this ability.

TYPES OF SPECIMENS SUBMITTED FOR DIAGNOSIS

Any type or form of stool specimen is usually satisfactory for the diagnosis of helminth infections. This does not, however, hold true for protozoan diagnosis in a public health laboratory. Many of you have probably received unsatisfactory reports from our laboratory stating that the specimen was liquid. This is reported as such only after it has been examined and the presence or absence of helminths has been determined. If eggs or larvae are found in such a stool, they are reported and a note made that it was unsatisfactory for protozoan diagnosis. With a little general review of the life cycles and physiology of most protozoa we believe most of you will see why this is our practice and why we request formed or semi-formed specimens.

In liquid stools motile (vegetative) forms of protozoa would be found if examined immediately after passage and while still warm from body heat. In a clinical laboratory where the patient may pass a stool and the technician examine it immediately, this is an ideal method for diagnosis, but in a public health laboratory where specimens are a few hours to a few days old when received, the examination of this material would yield nothing, since the motile forms die, are invaded by bacteria and disintegrate almost immediately upon cooling. Cystic stages of protozoa are formed from the motile parasite, only inside the human body (with a few exceptions for non-pathogenic protozoa) and only when the intestinal content becomes formed or semi-formed. These stages are fairly resistant to temperature changes and age, and due to these factors may be diagnosed as to species in specimens one to two days old. We frequently receive warm specimens at the laboratory which upon gross examination prove to be formed stools. This is an unnecessary detail which has probably caused the patient some inconvenience and has not aided the diagnosis at all, for no motile forms would be encountered in such specimens, and the diagnosis can be made by the usual concentration-levitation routine rather than by a direct smear. It does, however, have one advantage, it is freshly passed when it is examined and such stools give better cystic forms. Our one plea to physicians in regard to specimens is therefore one sentence: "Send only formed or semi-formed stools, and get them to the laboratory within 24 hours if possible."

A word should be said here in regard to specimen containers. Metal or glass containers are the only type in which specimens will be accepted for examination. We frequently receive specimens in cardboard boxes, newspapers and other makeshift containers. The technical staff thoroughly enjoys throwing these in the disinfectant bucket without a qualm, for fecal specimens are too easily and painlessly collected to force the staff to undergo the indignity of manipulating these infectious packages. Another day's delay in the diagnosis will not affect the patient's prognosis.

Whether tin ointment boxes or glass screw-capped containers are used does not matter, but instruct the patient to be sure these are oil or grease free, and that neither adhesive tape nor any other sealing material should be used to seal the container. Tape or other seals tend to cause the gas within the container to force the fecal specimen out of the container, right onto the very professional looking white wrapper. An inch of tape used as a label for the patient's name on some part of the container other than the junction of the cap and container is not objected to by the laboratory, but this is not necessary. No technical worker ever looks at a name in a public health laboratory.

A good rule for physicians to practice in requesting fecal specimens from patients would include a word of explanation to the patient that not more than a half ounce container, half full of fresh formed stool specimen is necessary for an examination, that the specimen must be handled by several people, so place it in a metal or glass container, and send formed or semi-formed material only, not liquid stools or urine (yes, many containers are filled with nothing but urine). Your diagnosis and treatment would be facilitated by this short word of explanation to the patient, who does not know these things. To insure best results from intestinal parasite surveys health workers should submit stool specimens during the period November 1 to April 1. This is not due to any periodicity of the diseases or infections but insures specimens being in more satisfactory condition when received in the laboratory. It is requested that specimens be limited to fifty per day for individual health workers. Individual or family groups may be submitted at any time.

TECHNICS USED FOR DIAGNOSIS OF INTESTINAL PARASITES

Prior to July 1, 1938, the State Hygienic Laboratory used the following technics for diagnosis of intestinal parasites:

1. Saturated salt solution flotation of ova of the helminths.

2. Direct smears of unpreserved stool specimens for protozoan diagnosis.

3. Direct smears of specimens preserved in formalin solution for protozoan diagnosis.

With the above technics in use the physician usually indicated the parasite suspected and laboratory examination was made for that particular parasite and the report usually indicated whether that parasite was present or absent only.

With the technic at present used in the State Hygienic Laboratory, (zinc sulphate levitation) a technic developed by John Tobey, a graduate student in the Department of Parasitology of the School of Medicine, Tulane University, each specimen receives the same consideration and all parasitic forms, pathogenic and non-pathogenic recovered, are reported. This technic is the only technic known whereby protozoan cysts, helminth ova, and helminth larvae are recovered in a highly concentrated state in one preparation. It has been found to elicit at least twice the diagnostic value for Endamoeba histolytica of any former technic.

The following is only a brief outline of the treatment recommended for Endamoeba histolytica. For detailed information you are referred to text "Clinical Parasitology" by Craig and Faust, 1937, a copy of which is in the State Board of Health library.

ENDAMOEBA HISTOLYTICA

The treatment of this infection includes the treatment of carriers, or "cyst passers," cases of amebic diarrhea; of cases of acute and chronic amebic dysentery, and of amebic abscess of the liver.

1. Carriers, "cyst passers," chiniofon is the drug of choice, also known as anayodin, yatren.

Adult 12 to 16 grains 3 times a day from eight to ten days. (1)

2. Recurrent amebic diarrhea:

Emetine hydrochloride 1 grain per day or less for not exceeding six days, followed by a regular course of chiniofon. (1)

3. Acute and chronic amebic dysentery:

Emetine hydrochloride 1 grain per day until dysenteric symptoms are controlled, never over 12 daily doses, after which a course or courses of treatment with chiniofon, vioform, or carbasone should be given. (1)

AMEBIC ABSCESSES OF LIVER

If discovered early, emetine hydrochloride 1 grain per day not to exceed 12 days. Late abscess requires surgical intervention as well as emetine. (1)

We are frequently asked by physicians what treatment should be used for parasites such as Endamoeba coli, Endolimax nana, Giardia lamblia, and the others of these classes, and we can only repeat the statements of leading authorities on this subject, i. e., these parasites do no damage in the human host, they are not usually eliminated by any treatment, and no specific treatment is known for any of them. Some individuals would have us and their patients believe that all amoebae are pathogenic, but again the work of professional research parasitologists shows that this is a fallacy and that such individuals have been badly misinformed.

Giardia lambia perhaps needs a few words before passing to the helminthic infections. This is a common flagellate in children and its presence in enormous numbers may occasionally give rise to diarrhea. This is thought to be due to the purely mechanical action of the parasites which cover the mucosa of the small intestine and the only remedy recommended for this condition is occasional saline cartharsis, preferably sodium sulphate (Glauber's salt) since it is a better solvent of mucous than magnesium sulphate.

Anthelmintic Treatment Recommended: (2)

HOOKWORM (Necator americanus)

Location: Attached typically to the wall of the median one-third of small intestine.

Drugs of Choice: (1) Tetrachlorethylene is well tolerated and in simple infections is by far the best drug. (2) If complicated by Ascaris infection or a hookworm heart, it is better to use caprokol (hexylresorcinol) crystoids, which will kill most of the parasites. A second treatment can be given safely within one week. Cases with marked anemia should be given general supportive treatment before chemotherapeusis.

Efficacy: Elimination of about 90-95 per cent of all worms is obtained with one course of tetrachlorethylene treatment; about 75 per cent with caprokol crystoids.

Preparation (1) Tetrachlorethylene is obtained in soluble gelatin capsules, each containing 16 minims (1 cc.). (2) Caprokol is available in hard gelatin capsules of 0.2 gm. each.

Dosage: (1) Tetrachlorethylene, adults, 3 cc., children 3 minims per year up to adult dose; (2) caprokol, adults and children of school age, 1.0 gm.

Method of Administration: (1) Tetrachlorethylene. One level to heaping tablespoonful of sodium sulphate (Glauber's salts), dissolved in water, is given the night before (half dosage for children). In the morning on an empty stomach the three 1 cc. capsules are taken. Nothing is given by mouth until two hours later when sodium sulphate is repeated. Patient must remain in bed and no food given until a copious bowl movement has been obtained. (2) Caprokol. Entire dosage is taken in the morning on an empty stomach, without previous purgation. No food for five hours. Post-treatment Glauber's salts purgation is optional.

Contraindications: For tetrachlorethylene, pregnancy, hyperpyrexia, insanity, lung, liver and kidney disease or where Ascaris is present; for caprokol, essentially nil.

Secondary Drugs: Carbon tetrachloride, 3 cc. can be given but is not recommended because of toxicity; thymol is less efficient and equally toxic.

ASCARIS LUMBRICOIDES

Location: Lives free in the small bowel.

Drug of Choice: Caprokol (hexylresorcinol) crystoids are the drug of choice and are nontoxic.

Efficacy: Elimination of about 90-100 per cent of the worms.

Preparation: Obtained as crystoids, each containing 0.2 gm., hard gelatin-coated.

Dosage: Adults, 1 gm.; children (1 to 5 yrs. of age), 0.6 gm.

Method of Administration: On an empty stomach in the morning give 1 gm. of the drug. Do not allow patient to chew tablets. No food is allowed for 5 hours after administration. Purgation is not absolutely necessary but is desirable to evacuate disintegrating worms.

Contraindications: Essentially nil.

Secondary Drugs: Oil of Chenopodium is the second drug of choice. Must be given with tetrachlorethylene in dosage of 2.7 cc. of tetrachlorethylene and 0.3 cc. of oil of Chenopodium. Preliminary and post-treatment saline purgation is essential. Santonin is very inefficient and quite toxic.

STRONGYLOIDES STERCORALIS

Locations Lives in the mucosa of the upper small bowel.

Drug of Choice: Gentian violet.

Efficacy: Clinically always helpful but does not necessarily remove all the worms.

Preparation: Enteric-coated gentian violet tablets (medicinal) (Nat. Aniline & Chem. Co.) each ½ grain.

Dosage: 1 grain (2 tablets) t. i. d. before meals for [illegible] days. Children same as adults.

Method of Administration: If no free HCL is present and Strongyloides larvae are present in the stomach, the tablets should be cracked open and given during meals. After medication has begun, if one of the following symptoms is noted, it is best to stop treatment: (1) severe epigastric pain, (2) pronounced persistent nausea, (3) violet discoloration of urine.

If larvae are recovered in sputum, 0.5 per cent filtered solution not in excess of 20 cc. on five alternate days is given intravenously.

If difficulty is encountered in ridding a patient of larvae, and 2 to 3 rounds of tablets have been given, intubate 25 cc. of a 1 per cent solution of gentian violet into the duodenum. After intubation be sure that the patient is near a lavatory, for vomiting and diarrhea are likely to ensue. Patient should remain quiet for an hour or two after treatment.

Contraindications: Essentially nil.

Secondary Drugs: None.

OXYURIS, PINWORM, SEATWORM (ENTEROBIUS VERMICULARIS)

Location: Lives attached to the wall in the lower levels of the small bowel, appendix and cecum. Gravid females migrate down the bowel and crawl out the anus into the perianal region and perineal hairs, mostly at night, where they can be recovered.

Drug of Choice: Gentian violet (medicinal).

Efficacy: One full course of treatment usually serves to eliminate these worms completely.

Preparation: Gentian violet, enteric-coated tablets, as recommended under STRONGYLOIDES.

Dosage: See STRONGYLOIDES.

Method of Administration: One grain (2 tablets) t. i. d. before meals for eight days; rest one week; then repeat treatment for eight days.

Contraindications: Essentially nil.

Secondary Drugs: Caprokol, as advocated under ASCARIS, combined with retention enemas of hexylresorcinol solution (S. T. 37). 1 gm. of the crystoids is given on an empty stomach in the morning. Immediately following, the lower bowel should be cleaned out by a tepid water enema. After complete evacuation of the bowel a high enema of hexylresorcinol, in a dilution of 1/1000 (S. T. 37 undiluted), one pint is given and should be retained as long as possible. If spasticity of colon or tenesmus is pronounced, the colon should be washed out immediately with warm water. Aqueous solution of merthiolate in a dilution of 1/1000 may be substituted but is not as satisfactory.

WHIPWORM (TRICHOCEPHALUS TRICHIURUS)

Location: Lives attached to the mucosa of the cecum and appendix.

Drug of Choice: Leche De Higueron.

Efficacy: 100 per cent.

Preparation: This drug is not on the market in the U. S. In Latin America it is preserved with one per cent sodium benzoate and sold under the trade name "Higueronia." It is the milk from a fig tree found in Central and South America.

Dosage: 2 ounces will usually rid the patient of infection.

Method of Administration: Give 2 oz. of the milk before the patient retires and follow with a little water. No purgation is necessary before or after medication.

Contraindications: Essentially nil.

Secondary Drugs: No efficient drug is known at this time.

TAPEWORM (BEEF OR PORK) (TAENIA SAGINATA OR T. SOLIUM)

Location: The adult worm is located in the middle portion of the small intestine, with its head attached to the bowel wall.

Drug of Choice: Oleoresin of male fern (Aspidium filixmas) is the drug of choice.

Efficacy: Is directly proportional to the care of the physician and intelligence of the patient in the administration of the drug; theoretically 100 per cent efficient, provided the drug is fresh.

Preparation: Prescribed in gelatin capsules of 10 minims each. The drug may also be given in a teaspoon with sugar.

Dosage: Adults, 30 to 60 minims (not to exceed 60 minims): children, 1 minim of the drug for each year of age (not in excess of 20 minims per dosage).

Method of Administration: The patient is prepared the night before by sodium sulphate purge (as in hookworm infection). The drug is administered the following morning in three doses at 7:00 a. m., 7:30 a. m. and 8:00 a. m., each dose containing 1/3 of total dosage advocated. Follow two hours later with another sodium sulphate purge. The patient must be kept in bed, or better, hospitalized during the treatment. After a copious bowel movement soft food may be allowed. Save all specimens of stool for 48 hours to search for the head of the worm which is usually passed separately.

Contraindications: Pregnancy and nephritis.

Secondary Drugs: Carbon tetrachloride or tetrachlorethylene may be used, but these drugs have not been given the test of filixmas, and are probably not as efficient.

DWARF TAPEWORM (HYMENOLEPSIS NANA)

The dwarf tapeworm lives in the middle portion of the small intestine. Hexylresorcinol as recommended for Ascaris is advocated. If the patient does not become free of infection, use oleoresin of male fern as recommended for Taenia.

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Perforated Peptic Ulcer

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INTRODUCTION

THIS PAPER is being presented with the hope that it might be of some service to both the general practitioner and the general surgeon. The statistics reported are those gathered from a survey of the current literature of the European and American clinics. The practical deductions are those made from a series of eleven cases by the author.

In 1880 Mikulicz performed the first operation upon a perforated peptic ulcer, and his first patient succumbed. In 1892 Heussner and Roux reported their initial series of successful operations upon ruptured peptic ulcers, and the surgical world began to realize the advantages of earlier operation in these cases. Several years later Mikulicz reported a series of 103 cases treated by operation with a mortality rate of 68%.

It is the opinion of the author that of all the acute abdominal catastrophes rupture of a peptic ulcer responds most favorably to early and proper operative treatment. It is noteworthy that some countries report a higher incidence of perforated peptic ulcers than others, these being particularly frequent in the Central European countries. It is estimated in those localities that 8 to 12 per cent of all individuals have peptic ulcers, and 5 to 15 per cent of these patients suffer perforations. Many authorities believe that there is a tendency for repeated perforation in the same individuals. Henry has reported one patient who had five perforations within a period of four years. That there is a multiplicity of ulcers in the same patient is borne out by the report from the Mayo Clinic by Judd in which their series showed multiple perforations in approximately six per cent of cases. German authors report multiple perforations in 2 to 40 per cent of cases.

RACE

The negro race shows less tendency to formation of peptic ulcers than the white race, and hence less perforation. Troutt, however, reports that the brown race has a much higher incidence of peptic ulcers and subsequent perforation, particularly among the Hawaiian soldiers.

AGE

The most frequent occurrence of perforated peptic ulcer is in the third and fourth decades of life. There is no age limit exempt however. Many perforations are reported in patients above seventy-five years of age, and not infrequently children and infants are affected. Several cases are on record of perforated peptic ulcer in infants less than one-month old. The most frequent occurrence of multiple perforations seems to be in the third decade of life. It is fortunate that the two extremes of life experience fewer ruptures, for the mortality rate is much higher during those periods.

SEX

In the past thirty years the male sex has been more prone to the formation and rupture of peptic ulcer than the female. Prior to this time, statistics show that a majority of cases were in women. It is not common to review a series of thirty or forty consecutive cases of perforated peptic ulcer from one clinic, in which not one single female was involved. The present rate, however, shows between three and five per cent of perforations in females.

OCCUPATION

It was formerly believed that the hyposthenic, nervous individual of the upper strata of society was much more susceptible to perforation than the laboring class. More recently, however, it has been observed that the great majority of ulcers and perforations of ulcers occur in workers who tend to become careless about their eating habits, with especial reference to the time of eating and the amount of food eaten.

DURATION OF SYMPTOMS

About 90% of perforations occur in patients who have had ulcer symptoms for a period of from one or two weeks to many years, the usual duration being from three to five years. In approximately 10% of cases, however, there is no definite epigastric distress or indigestion, and the perforation comes on out of a clear sky. Most cases seem to show an aggravation of ulcer symptoms before perforation. There is a more constant abdominal discomfort which does not respond so readily to the usual types of medication.

SEASONAL OCCURRENCE

For some unexplainable reason, about 25% of perforated ulcers occur during the months of April and November, bearing out the belief that the recurrence of ulcer involvement in the spring and fall has a definite seasonal trend. There seems to be no definite explanation for this fact.

LOCATION OF ULCER

The location of peptic ulcer is about equally divided between the duodenum and the lower end of the stomach. The rupture is usually on the anterior wall in the vast majority of cases. In less than 15% of cases it may be on the posterior surface of the stomach or duodenum. It is extremely rare for an acute ulcer to perforate. As a general rule an acute ulcer involves only the mucosa and submucosa. This type not infrequently gives evidence of bleeding, and it is an accepted fact that the bleeding ulcer, whether acute or chronic, rarely perforates. The chronic ulcer, on the other hand, shows a replacement of normal tissue with scar tissue, and this scar tissue causes a decrease in the blood supply to that area by a constriction of the blood vessels. This type of ulcer frequently attains a diameter of two to three cm., and as the depth of the ulcer increases, perforation follows.

SYMPTOMS

As a general rule, the symptoms of a ruptured ulcer are classical, and diagnosis offers no serious problem. There is a history of an individual who in the vast majority of cases has had digestive symptoms over a period of several years, in the third or fourth decades of life, who is seized with a sudden, violent, abdominal pain, excruciating in nature, usually coming on from one to three hours after meals. All the symptoms of shock are present: pallor, cold, clammy skin, increase in pulse and respiratory rate, fall in blood pressure and temperature, and the general appearance of an acutely ill patient. As a general rule the thighs are flexed so that the chin rests almost on the knees and the abdomen presents a characteristic board-like rigidity. It is not uncommon for the patient to toss about in bed, but most frequently he wants to be still. Vomiting is seldom seen, except when the ulcer is in the stomach, and when perforation occurs very soon after meals. If the site of perforation is in the duodenum, vomiting rarely occurs. In about one-half the cases the patient complains of pain not only in the abdomen, but also in the neck and right shoulder region. As a general rule, the degree of symptoms is in direct proportion to the amount of peritoneal aggravation and involvement. If the ulcer is on the posterior surface, the symptoms are not so severe because of the fact that peritoneal contamination is not as extensive as in cases in which the rupture is on the anterior surface. As the amount of intra-abdominal irritation increases, the patient usually shows increase in the signs of shock, and the board-like rigidity of the abdomen becomes greater. The excruciating pain is such that the patient begs for immediate relief, and as a rule, one-fourth grain of morphine gives little relief. If there has been much food in the stomach and the ulcer perforates through a large opening in the anterior wall of the stomach or duodenum, there may be considerable tenderness on rectum examination in the cul-de-sac of Douglas.

An x-ray of these patients in the upright position will reveal a pneumo-peritoneum immediately under the diaphragm on the left side of the abdomen in those cases in which the ruptured ulcer is adjacent to the free peritoneal cavity. Of course one would not expect to find this diagnostic feature exhibited in a perforated duodenal ulcer on the posterior surface.

TREATMENT

As has been previously mentioned, immediate operation is the treatment of choice as the condition is most amenable to proper surgical treatment when done within a few hours following perforation. This is clearly demonstrated by the decreasing mortality rates reported from all clinics. It is the consensus of opinion that the mortality rate is in direct proportion to the time elapsing between perforation and operation. With regard to the type of surgery to employ at operation, it must be said that one should individualize each case. There are as many types of surgery recommended for the operation of perforated peptic ulcers as there are surgeons. In general it may be said that the less surgery done at operation, the better off the patient will be. While the European clinics report wonderful results with a mortality of from 10 to 25 per cent in the routine resection of the pylorus and ulcer-bearing area, this has not been the profitable experience of the American clinics. The type of operation should vary with the location of the ulcer, the time elapsing from perforation to operation and the operative skill of the surgeon. It is generally believed that a simple closure of the ulcer, where possible, with a re-enforced Lembert stitch will take care of that particular ulcer where the area of induration is not so extensive as to prevent a neat job. If there is encroachment upon the diameter of the pylorus by simple closure so that there is danger of a subsequent stenosis, it is probably best, if the condition of the patient permits, to do a gastro-enterostomy in addition to the closure of the perforation. In general, it might be said that a primary resection of the stomach should be reserved foi those cases in which the general condition of the patient is excellent. It is well to remember that one should always aspirate the pelvis and flanks where there has been any contamination.

Formerly the general trend among surgeons was to drain every abdominal operative case where there was the slightest evidence of abdominal contamination. It is generally conceded now, however, that drainage should be instituted only in those cases in which contamination is maximum. The adage now seems to be, "When in doubt do **not** drain." In those cases in which drainage is instituted, it is much better to drain the lower abdomen and flanks by means of a stab incision rather than by attempting to drain the abdomen through the original operative incision. It is surprising how frequently one experiences a post-operative complicative evisceration when a drain is left in the upper abdominal incision, and it is embarassing to be called to the bedside of a patient who apparently has been doing well, but has experienced a sudden acute discomfort beneath the dressing following a coughing attack, about the fifth or sixth day, and to find on removing the dressing the stomach and small intestines protruding thru a gap in the incision. It is well to remember that the operation on a patient who is suffering from a perforated peptic ulcer is not one designed primarily to cure the ulcer, but rather should be an operative intervention to save the patient's life. One encouraging feature of this is the fact there is spontaneous recovery with no further peptic ulcer symptoms in about 35% of cases in which only simple closure of the ruptured ulcer was carried out. It might be mentioned that the safest type of anesthetic in these cases is by ether inhalation and anesthesia with or without ethylene or gas. One clinic prefers the use of spinal anesthesia, but it has been the experience of the author that insult should not be added to injury, and spinal anesthesia should not be routinely employed because of the further shocking effects of that type of anesthetic. Ether, on the other hand, affords a slightly stimulating effect.

It is well to remember that these cases immediately prior to operation should receive necessary stimulants and fluids by needle. It is surprising how well the average case of this type will snap out of shock when 1000 cc. of 5% to 10% glucose saline are given intravenously. Occasionally it is expedient to have donors matched for possible blood transfusion either before or immediately after operation, but since the loss of blood from perforation is usually negligible, blood transfusion will have to be employed rarely.

It is thought best, at this time, to call attention to the fact that there is a report from the Cook County Hospital, of a series of forty cases of spontaneous recovery from perforated peptic ulcers without operation. These ulcers all occurred on the posterior surface of the duodenum or stomach, and it is believed that because of the proximity of the adjacent organs, there was an almost immediate sealing over of the ulcer by these tissues. These ulcers also were probably very small, and perforated through pin-point openings.

Conclusions

(1) Perforated peptic ulcers are amenable to early and competent surgical treatment.

(2) Emergency operations should be as simple as possible, answering merely the primary essentials to correct the pathology present and with the least traumatism possible. No drainage should be used, unless when absolutely necessary.

(3) Spontaneous cures frequently occur following treatment and operation.

(4) It is generally conceded that there are almost as many opinions concerning the treatment of the perforated peptic ulcers as there are surgeons.

(5) The operative mortality is in direct proportion to the time elapsing between perforation and operation.

The Modern Treatment of Endocervicitis*

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LEUKORRHEA is the most common complaint for which a woman consults her doctor. Cervicitis and endocervicitis are by far the commonest causes of leukorrhea. Fifty to seventy per cent of all parous women if not adequately treated post-partum will eventually come into our offices complaining of a leukorrhea. The same is true for abortions, miscarriages and lacerations of the cervix. If we would pause for just a moment and consider the anatomy and physiology of the cervix we can readily see why this is true. This would be elemental and superfluous. On the other hand, certain histological arrangements have so direct an influence on cervical affections, particularly inflammatory processes, that a brief reference may be permissible. The multiplicity of the remedial measures for endocervicitis is not due to their general inefficiency, but rather to the necessity for adapting the particular procedure for the underlying pathology. The vaginal surface of the portio is protected by squamous epithelium which is like that which lines the vagina. This offers a protection against microorganisms and trauma. These squamous cells extend slightly within the internal os and there merge with the single layer of tall columnar cells which line the cervical canal. Most pyogenic organisms invade the submucosal structures quickly rather than the undamaged cervical surface. The endocervix is lined by compound racemose glands having branched ducts with dilated ends which make an excellent chamber for latent infections. Thus we can easily understand why we cannot permanently cure these conditions with topical applications. These ducts fill up, the ostea become sealed off, and we have the fully developed Nabothian cysts. This same condition occurs in Skene's glands and Bartholin's glands for they, too, are of the compound racemose variety. Hence, to cure chronic skenitis we must burn these glands with our fine hair point cautery and to cure the bartholinitis we must completely excise the wall of the cyst. We speak of the terms erosion and eversion as a raw, reddened inflamed area and a turning out of the lips of the cervix. In truth, I think it is but rare that we see a genuine erosion. For, by the time we see the patient, not only has the squamous epithelium become denuded from the portio but also it has been replaced by the columnar epithelium from the endocervix. This explains why there have been so many failures in the treatment of so many of these so-called erosions with topical applications. A large percentage of such cases are in reality secondary from a diseased endocervix and the local superficial manifestation is but a "signal light" for what is going on in the deeper structures. The supravaginal portion of the cervix has a generous lymphatic intercommunication with the adrenal parametrium—hence, the frequency with which virulent cervical infections spread to the cellular connective tissue and adnexa. We speaking, of course, of the endocervicitis that occurs in parous women. We are all well acquainted with the erosion of the aseptic type that occurs in virgins and young brides. In the former it is due to malnutrition, anemia and constitutional impairments and heals spontaneously when these conditions are corrected. Today we are considering the endocervicitis that occurs only in the parous woman and the woman who has passed the climacteric, not the virgin or the nulliparous woman.

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*Read before the Northeast Mississippi Thirteen-County Medical Society, March 14, 1939, Columbus, Mississippi.

It is practically impossible to discuss this most fascinating subject without considering for a moment the differential diagnosis. A discharge may vary all the way from a mucopurulent yellowish secretion of a Neisserian infection to the prune juice foul-smelling discharge of a carcinoma. We must, of course, make an accurate etiological diagnosis before any sort of treatment is undertaken. The foamy discharge of a Trichomonas infection is quite characteristic, yet we cannot be sure until we have taken a specimen diluted in warm saline placed on a hanging drop slide and examined it under the microscope. Monilia infections usually occur after puberty and can usually be found in a wet specimen from the discharge. Hyperplasia of the endometrium is not nearly so frequent as was once supposed. It is suggested by a non-tenacious milky but thick discharge which is free from pyogenic microorganisms, and we are all well acquainted with the "swiss cheese" dilatation of the endometrial glands after diagnostic curettage. The Neisserian infection is clearly revealed with methylene blue and Gram's stain as gram negative intra and extracellular diplococci. Carcinoma of the cervix can only be certainly diagnosed by biopsy of the suspicious area regardless of the Schiller's test, bleeding and appearance of the cervix. Dr. Schiller's work is not to be taken lightly. For, although it is not a specific diagnostic criteria, it causes us to stop in many instances before we pass over many conditions which we might be prone to pass over as non-malignant. The well posted man who will take time to apply a little Gram's iodine solution to the cervix will also have a biopsy taken if he is doubtful. Carcinoma of fundus, pyometro, retrodisplacement, oophoritis, parametritis, fibroids, pelvis tuberculosis, salpingitis, tubal pregnancy, cervical polyps, tuberculosis, syphilis and streptothrix will all excite a discharge at sometime, but are usually ascertained by a thorough pelvic examination which should always include a speculum examination. Sevringhaus has also shown that a prolongation of the secretory phase of menstruation due to an excess of estrin or a diminution in the luteal or differentiative phase due to a lack or reduction of anterior pituitary-like hormone from corpus luteum often causes an excess bleeding. How many times has a carcinoma of the cervix or carcinoma of the corpus passed from the stage of effective therapy to the inoperable stage because of the mere negligence of a speculum examination or diagnostic curettage?

The mucosa of the corpus and the mucosa of the cervix offer a very striking contrast Once a month the endometrium is cast off and the floor is swept clean upstairs, but not so downstairs. The cervix retains the scars of the battle, whether the battle be a normal, difficult delivery, an abortion, a miscarriage or a pyogenic infection. This is because, as we have said before, the compound racemose glands do not drain. One often wonders at the miracles of recovery of the female after childbirth — the stretching of the cervix, the bleeding, the retention of blood around the portio, the microscopical or macroscopical lacerations of the endocervix, the retention of products in the racemose glands. It really is a miracle to me that any of these women get by an endocervicitis who are not adequately treated post-partum. The best time to prevent an endocervicitis is by linear strippings of the anterior and posterior lips of the cervix six to eight weeks post-partum provided an erosion is present at that time.

The vast majority of chronic endocervicitis cases are caused by childbirth, abortions, miscarriages and pyogenic infections and not by the gonococcus.

In the acute endocervicitis no form of active treatment is indicated. Rest, proper drainage by elevation of the head of the bed, sedation, local hyperemia with the Elliot machine, mecolyl Iontophoresis as shown by Jacobi of New York Postgraduate Hospital and a copious hot saline douche every three hours is all that is needed in the acute stage. Strongly medicated douches, topical applications and instrumentation are all contraindicated in the acute stage.

It is with the chronic stage of endocervicitis that I wish to deal here. The early stage of an ectropion is best treated by linear strippings spaced at equal distances apart with the nasal tipped cautery. The heavy duty or actual cautery destroys entirely too much tissue. If these strippings are treated at weekly intervals in our office with 10% to 25% silver nitrate the ectropion will be completely healed in three or four weeks. The silver nitrate alone will permanently heal but few of these lesions. In older women past the menopause, with extensive laceration and scaring, it is wiser to do an Emmett trachelorrhapy or remove the cervix. For the Nabothian cyst the simple puncture with or without conization affords adequate and efficient drainage. Chronic pyogenic endocervicitis with round cell and lymphocytic infiltration of the deep connective tissue stroma cannot be cured with anything less than a destruction of all the gland crypts. The three most popular methods of doing this today are Sturmdorff tracheloplasty, Cherry intracervical electrocoagulation and the Hyams' conization. I have tried all these methods in not a large series of cases, but enough to prove to myself that the Hyams' conization is the cleverest, the most complete and the most ingenious method of treating chronic pyogenic endocervicitis. In fact, in the East, in New York, Boston and Philadelphia conization has entirely replaced the Sturmdorff operation. Wolfe has shown that islands of endocervical tissue at internal os are left behind after the Sturmdorff operation and serve as a constant source of leukorrhea.

Hyams described his method in the May issue of the American Journal of Obstetrics and Gynecology, 1933. While I was in New York doing postgraduate work in gynecology, I spent two months with Dr. Hyams and we used this method of conization in a large series of cases. He has used the conization in over 2,000 cases at the New York Postgraduate Hospital and his results have been excellent. He has had many cases to become pregnant who were previously sterile. At no time has it caused an abortion or miscarriage in a case who became pregnant after conization. Since I've been back in Tupelo I've used this method in twenty-five cases and am well satisfied with the results obtained. I have seen no stenosis of cervix following it. The discharge is considerably increased for a couple of weeks following the operation. I always tell my patients that the discharge will be temporarily increased, for fear they might think that the conization has aggravated the condition and fail to return to the office for follow-up treatment. They should return to the office once a week for 6 to 8 weeks and a cotton applicator soaked in merthiolate applied to the cervical canal. By the end of the eighth week one will hardly be able to tell that anything has been done to the cervix, for it is clean and healthy, and all of the endocervicitis is gone.

The Hyams' electrode is tungsten wire attached to a silican tube so as to comform to the spinal-shaped contour of the cervical canal. This is attached to a handle which is connected to a high frequency cutting machine. A cotton applicator soaked in 2% nupercaine or 50% cocaine is left in the cervical canal for five minutes and affords all the anesthetic necessary. The indifferent electrode is placed underneath the hips and attached to the high frequency machine. The current, which is regulated, is turned on by stepping on foot switch and the electrode introduced into cervix and rotated through an arc of 360 degrees. This takes off the entire mucous membrane of the endocervix and leaves no islands of diseased tissue behind. There is rarely, if ever, any bleeding and a small cervical pack soaked in merthiolate is inserted for twenty-four hours. I would like to inform those who might think they would do this type of operation with any sort of coagulation or cautery machine, that much grief is bound to follow such experiments. Dr. Hyams devised his own high frequency machine for this work so that it delivers a maximum cutting current with only a minimum of coagulation. It is a clever machine in that other types of electrocoagulative surgery may be done with it as well. I have found it to work excellently for biopsies, fulguration of bladder tumors through the McCarty panendoscope, and for removal of verruca.

I have done the majority of these conizations in the office in the patients who live in the near vicinity. For those who are from a distance I send them to the hospital for the operation and have them remain forty-eight hours. These women are the most grateful patients I've ever seen and I think it is no more normal for them to have a leukorrhea, backache, headache, urological symptoms, dysmenorrhea, and sterility than it is for a man to have a discharge from a posterior urethritis, veramontinitis, seminal vesiculitis or a chronic prostatitis.

I think this is the best method we have for preventing carcinoma of the cervix. Let us not consider this method as a panacea for the cure of all leukorrheas, however, or we will be badly disappointed. We must first make an accurate and, if possible, an etiological diagnosis. As Dr. Hyams has said, "the patient must be adapted to the procedure and not the procedure to the patient."

SUMMARY

(1.) The etiology, anatomy, physiology, and pathology of the cervix was given.

(2.) A brief differential diagnosis of leukorrhea was mentioned.

(3.) The prevention of endocervicitis by adequate post-partum care was stressed.

(4.) The efficacy of linear strippings for erosions of the cervix and the Hyams' conization for chronic endocervicitis was emphasized.

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Socialized Medicine from the Viewpoint of a Country Doctor*

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SINCE we have heard so much during the past year of socialized medicine and adequate medical care, an address on this subject from the viewpoint of a country doctor might be worth while. The doctors of the United States have a complete medical organization, beginning with the county societies, which are linked with the larger component groups, the state and other societies up to the American Medical Association. The American Medical Association was organized in 1847 with the avowed purpose of rendering useful service to humanity and furthering the art and science of medicine. That the officials and members of this association have made mistakes no one denies. And they will make more—because all human beings make mistakes, but not a doubting Thomas among us will be convinced that a non-medical group can do the job better than they and the multiplied thousands of physicians who sleep beneath the American soil have done it. Many of them have sacrificed the better part of their lives that their patients might live and be happy; many of those who bore the torch of medical light have fallen, leaving us to take up the light of life, health, and happiness and carry on.

It was my privilege to attend the meeting of the House of Delegates of the American Medical Association at its annual session in San Francisco. I heard the address of Miss Josephine Roche, chairman of the Interdepartment Committee, and listened with interest to the various discussions of her paper. As an invited guest I also attended the special called meeting of the House of Delegates of the American Medical Association which was held in Chicago, September 16 and 17, 1938. The purpose of that meeting as outlined in the call was, "The business to be transacted at this special meeting shall be limited to the National Health Conference recently held in Washington, and to such other matters as may be submitted to the House of Delegates by the Board of Trustees."

It was both illuminating and inspiring to see how earnestly the twenty-five committeemen at Chicago, who were appointed to bring back a report to the entire membership of the House of Delegates of the American Medical Association, labored almost continuously for forty-eight hours to work out the best plan that would be acceptable to the lay group and safeguard that relation of physician and patient, which is regarded sacred by the American doctor.

At this meeting Dr. Underwood and Dr. Garrison submitted a resolution suggesting that the House of Delegates express their desire to co-operate with the President and the Interdepartmental Committee in every way possible to work out a more satisfactory plan of medical care, assuring the President that the doctors are in sympathy with him in any laudable effort to improve medical care, and requesting the President to name a committee of five to act with a like committee from the House of Delegates of the American Medical

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*President's Address, delivered before the seventy-second annual session of the Mississippi State Medical Association, Gulfport, May 10, 1939.

Association, to study the data accumulated by the Interdepartmental Committee and the American Medical Association, in order that existing differences may be smoothed out regarding sufficient distribution of health facilities to all people now not receiving same.

After two days' and one night's study, the committee of five appointed to bring in a final condensed report of all committee reports, recommended that a committee be appointed to confer with the Interdepartmental Committee. The following were appointed: Dr. Irvin Abell, president of the American Medical Association; Dr. Walter G. Donaldson, chairman, Pennsylvania; Dr. Walter E. Vest, Virginia; Dr. H. A. Luce, Michigan; Dr. Fred W. Rankin, Kentucky, and Dr. Frederick E. Soncein, New York; Dr. E. H. Cary, Texas. Dr. Rick Sylvester, president-elect of the American Medical Association, and Dr. Olin West, secretary, were named as ex-officio members of the committee.

This committee as well as committees from the American Hospital Association and the American Public Health Association met with the Interdepartmental Committee. The three medical committees unanimously and unalterably opposed some parts of the recommendation of the Interdepartmental Committee, especially compulsory health insurance. The doctors' reason for opposing this plan is plain and can be understood by any fair-minded, intelligent man or woman.

In the special called meeting at Chicago we learned that there are many hundreds of new medical plans now in operation in cities, counties, and states. There are also many other plans being proposed, so it is apparent that in almost every part of the country the practice of medicine is different from what it was even twenty-five years ago. Yet, in this fact alone is no cause for unnecessary alarm. We travel differently, we teach differently, we live differently; in fact, every phase of our social and economic life has been changed. And so long as those changes in the practice of medicine are planned and executed by the majority of the medical men of the present and future as in the past, all is well. Upon our solution of this problem rests the future of progressive medicine.

Reviewing unbiased statements from American physicians who have studied socialized medicine in foreign countries, we draw the following conclusions: (1) The physicians are opposed to socialized medicine as practiced today in some of the foreign countries, because there is no decrease in the cost of medical care, and the larger administration cost does not justify the results. (2) Public Health and preventive medicine are not helped or advanced. (3) Morbidity and mortality are not reduced. (4) Neuroses of both doctors and patients are on the increase. (5) Over-medication is encouraged. (6) The burden of paying for the system is placed on the low income group—those least able to pay it. (7) Medical care for the indigent is entirely omitted. (8) The hospital load is increased, thus encouraging them to enter the practice of medicine. (9) Diagnosis is superficial and treatment is mechanical and inadequate. (10) Medical men and medical organizations are compelled to spend much of their time making reports to lay investigators and politicians rather than in the scientific study and treatment of their cases. (11) Medical service is a political issue, being placed in the hands of unqualified non-medical individuals and organizations. (12) Sickness insurance has broken the relation of family physician—patient.

From Hippocrates' day until the present, confidence in his family physician has led the patient to trust his doctor and confide in him the innermost secrets of his life. The physician has guarded and held sacred those secrets; but now a third party, the insurance investigator, and a fourth, the Government, have come between the physician and patient and broken that relation. The physician is discredited and punished for every clerical error and the insurance man wants to know of both doctor and patient the details of what is wrong and why the doctor pursues certain lines of treatment. From these facts it is easy to understand why medical standards are lowered and neurosis is on the increase.

In this panel system the doctor is given rules and regulations which may require many exacting Government reports. He is given a book containing the drugs to be prescribed. His reports are not always accepted, but may be checked by Government employees. The druggist and the hospital are subject to the same rigid audits, consequently, only a small portion of the money collected from those least able to pay can ever return in efficient medical and hospital care, because the major part falls into the hands of politicians.

The progress of scientific medicine is accepted by all. Today curative and preventive medicine has risen to new and higher planes of efficiency; new and better methods of diagnosis and treatment are being perfected; constant and continuous reductions in communicable and infectious diseases and infant mortality during the past century have increased the span of life expectancy from 28 to 60 years.

The illegitimate forces arrayed against the family physician may note he never runs from the enemy. In the yellow fever epidemic here on the Coast, in Mobile and New Orleans, the people fled to the hill sections, but the family physicians remained on the job, some of them to contact the disease and die. In the influenza epidemic of 1918, many people isolated themselves at home from their own kin who had contracted the disease, but the family physicians of America did not run—they have not and will not run from infectious diseases, nor will they run now when the fundamental foundation and principles of their profession are threatened. We do not doubt the sincerity of the Interdepartmental Committee's report, but we who are on the ground doing the work, seriously question the accuracy of this statistical data, for if statistics are to be accurate, they must be collected by people who are trained and familiar with the subject they are investigating—that is, if medical and hospital statistics are to be accurate, they should be collected by an unbiased committee of doctors and nurses.

Since the report of the Interdepartmental Committee and the indictment of the officers of the American Medical Association, some of the medical politicians in our profession, no doubt hoping to be lieutenants or colonels in the army of socialized medicine, and a small group of weekly magazine editors have seen fit to criticize severely the medical profession. Is this criticism justified? Let us review the medical progress in Mississippi for the past twenty-two years.

Human life is sacred. Whatever saves life is revered. For this reason, progress in preventive medicine attains exalted significance. During the past twenty-two years much has been done in Mississippi to reduce death rates and increase the span of life. In order to develop a program of life protection, the State Board of Health, in co-operation with the doctors, has adopted as its policy the establishment of a full-time health department in as many counties as available funds permit. The effectiveness of this type of health service has been demonstrated to the satisfaction of the people of Mississippi. All-time health departments have increased from one county in 1917 to 59 counties in 1939, including 50% of our population. Activities of the full-time health department include health education, preventable disease control, maternal, infant, preschool and school health care, vital statistics, laboratory and other miscellaneous services. Activities connected with syphilis, tuberculosis, diphtheria, typhoid, smallpox, dysentery, pneumonia, influenza, and other diseases come under the head of preventable disease control. Laboratory facilities are furnished by most of the county health units and through the State Hygienic Laboratory are made available to every doctor in the state. The office of sanitary inspector, created in 1912 when 4,054 inspections were made, has during the past three years made more than 110,000 inspections, and other evidence of Mississippi progress in public health during the past 22 years is the record made by the state in tuberculosis control. This disease has been reduced by more than half.

Since the state-wide venereal disease control program was established last year approximately 134,000 doses of anti-syphilitic drugs have been distributed and approximately six thousand patients a week have been treated. The State Board of Health has grown from year to year, and through the combined efforts of the physicians of the state, the following results have been accomplished in the past 22 years.

In 1916, the number of deaths from typhoid fever was 638 and the death rate was 37.2. In 1937 typhoid deaths decreased to 77 and the rate of 3.4. During the same period of time malaria deaths decreased from 1426 to 301, the malaria death rate from 79.4 to 13.5; diphtheria deaths from 141 to 52, the rate from 7.8 to 2.3; pellegra deaths from 840 to 236, the rate from 46.2 to 10.6; tuberculosis deaths from 2625 to 1300, the rate from 146.2 to 58.5, dysentery deaths from 342 to 120, the rate from 19 to 5.4. All of these reductions were brought about in twenty-two years due largely to preventive measures of sanitation, immunization and education. These measures were applied for the most part through local health service. Of the eighty-two counties in the state, 39 have full-time local health units and 43 part-time services.

From an article in LOOK MAGAZINE on January 17, 1939, entitled "An Open Letter to American Doctors," I quote, "The battle started in 1937 when 2,500 Government employees organized Group Health Association, Inc., as a means of getting proper medical care at a cost they could afford. With the aid of a Government grant they equipped a clinic, retained four doctors and in a few months were providing members with complete medical service for $2.20 a month, individual. and $4.60 for a family of four persons." The part of this letter that especially impressed me was, "With the aid of a Government grant they equipped a clinic." Who is this fellow, the Government? His name is **Taxpayer.** And it is reasonably certain that taxpayers will not continue to submit to heavier tax burdens in order that a few individuals may draw a big salary and work a few hours a day in air-conditioned offices at their expense.

In the fifth century, B. C., Hippocrates gave to medicine its ethical ideals and its scientific spirit. The oath which bears his name is still our standard. One section of the oath reads, "I will follow that method of treatment which, according to my ability and judgment I consider for the benefit of my patients, and abstain from whatever is deleterious and mischievous." Can we do that under the laws of socialized medicine as practiced today in a number of foreign countries? The answer is NO!

The medical need of today is not more hospitals and clinics but more young doctors well-trained in the science and art of healing who are willing to make the sacrifice that their fathers made. Practically all the young doctors of today shun the country and seek the city for a location. The blame cannot all be placed on them however, for during their entire medical training their thoughts have been moulded to steer clear of country practice. To correct this, then, we must begin in our medical teaching centers. It is also necessary that the people living in rural areas who are anxious for a physician to locate in their community be awakened to the fact that they owe him co-operation and pay for his services. They can show they are earnest by converting a dwelling into an office building. Then the county, state and federal Government can say, "We want these people to have adequate medical care, hence, we will equip the office sufficiently to take care of any ordinary sickness or minor surgery. If necessary, we will supplement his dollar the first year and donate or lend him this equipment, for one, two, or three years until, if he works and has any ability, he is self-sustaining and needs no further financial aid." In this way people would be getting adequate medical care from their own family physician at home.

The totally indigent have been taken care of by the profession multiplied thousands of times. The family physician not only gives his time but furnishes medicine and nursing in many cases. This is not right, and the doctors are happy that President Roosevelt has shown that he wants the Government to take care of the indigent sick and not require the medical profession to continue to assume the responsibility.

I recently read an article by Dr. G. S. Bryan of Amory, part of which I quote: "Of course, de do not presume to say or think that we could present a plan that would best meet the needs of the situation but we will venture to suggest in brief some things that we think should enter into any legislative plan and the administration of such a plan. We think that any person who has been adjudged indigent should be given a card so stating, and that this card should be sufficient authority for the doctor to render service and bills; for service so rendered should be paid out of funds provided as suggested above. These bills, of course, should be subject to review, approval, or rejection, by some adequate and responsible committee. These accounts and bills should be kept preserved in some provided and intelligent form. They should be presented and PAID monthly, if found correct and honest. All doctors who are legally qualified should be permitted and expected to participate in this work. But they should be held subject to any by-laws and regulations promulgated by regularly constituted and organized medical societies and associations. There are many phases and conditions that we might propose, but these are the necessary and salient features that we think should be built into any plan of medical care for the needy and indigent, But we would emphasize the fact that is most apparent to us; namely, that hospitalization is being over-stressed by both doctors and the public. Hospitals are simply places where doctors can give medical care to those who need medical attention. It is, at least, a competent doctor that sick people need and not simply a place to be sick. Again the home has always been—always will be—and always should be the proper place for sick people to be cared for. However, the people who most need hospital accommodation and care are the indigent—those who have no adequate home environment. Those people who are financially able to pay for hospital care and efficient nursing, practically always have good home environment and can secure capable nursing there at less expense than at hospitals. Furthermore, statistics show that recoveries are quicker and fatalities are fewer in the home than in even the best quipped and best regulated hospitals."

We do not agree on all points he stressed. However, coming from a man of Dr. Bryan's calibre, I think we all can agree that there is food for much thought in what he says. Dr. Bryan has always lived and practiced in a small town, yet his counsel is often sought by our most eminent surgeons and internists. Nor is the humble farm tenant, who seeks his service as his family physician, ever turned away because he has no money to pay.

I am wondering what would happen if the thousands and thousands of doctors like Dr. Bryan are compelled, after a hard day's work, to confer and make a detailed report to some Government agent, most likely a defeated politician. I suspect it would be necessary to send a new agent for the second report.

The doctors of America have always done their part in upholding the Government both in time of peace and war but the majority of them will oppose the Government taking over the job of rendering medical care.

There is just one place in the United States where the Government does have a free hand to take over medical care, if it desires, and that is in Washington, D. C. There the will of the Federal Government is supreme and it can do as it pleases without hindrance from any outside source. It is interesting to note, however, that for the year 1936: "The death rate from cancer was 26 per cent higher in the District of Columbia than the average rate from this disease throughout the United States. In the case of heart disease, the death rate was 27 per cent higher than the general average of the nation as a whole; 49 per cent higher from pneumonia; 92 per cent higher from tuberculosis; 106 per cent higher from alcoholism; and 119 per cent higher from syphilis. The vital statistics reports for the nation further disclose the fact that the infant mortality rate in the District of Columbia is 26 per cent higher than that of the whole United States, while the maternal death rate is 91 per cent higher. These statistics are taken from former Congressman Samuel B. Pettengill's instructive book, "Jefferson, the Forgotten Man."

To those opponents and agitators who have charged that the medical profession is static and obstructive, we would answer:

Until now, without any whip hand of politicians over our head the profession has arduously studied and developed new methods of diagnosis and treatment, and after years of effort, when a new discovery is made, has not incorporated it for personal gain, but has given it to the world free.

The medical profession is conducting hundreds of social experiments toward a better distribution of medical care.

The family physician has in the past, is today, and will always spend time, money, and effort in teaching his clients how to keep well.

"The ethical medical profession is striving constantly by accepted scientific methods to discover the cause of disease and the appropriate methods of treatment, does not advertise, makes no guarantee to cure, uses no testimonials to advance its methods, but relies on the merit of services honestly rendered by personal, confidential relationship with its patients, gives to the public freely the benefit of every new, scientific development in medicine, and is constantly seeking to elevate standards of education and medical practice primarily for the control or elimination of disease." The country doctors realize that state and federal financial aid is needed but that help should be distributed through the same channels in the future as in the past, namely, through our state health boards where fewer new non-medical men are needed and the program kept in the hands of trained sympathetic medical men rather than politicians.

Finally, we would point out that socialized medicine would destroy the Unwritten Law of Medicine. Yes, the country doctor's professional duties are only a small part of his life in the community where he lives. He is usually a civic and church leader. Many times he is called on as peacemaker in the home and on the streets. Husbands and wives seek his advice and counsel because they trust him. Young men, women, boys, and girls often confide secrets to him because they know he will keep their secrets and help them with safe advice, but if a third and a fourth party come between him and his patient, that confidence will be destroyed.

Not long ago a young woman, the mother of two small children, visited her family physician. When she entered the doctor's private office, there was an immediate outburst of tears. She was hysterical. The old country doctor diagnosed her case before she regained composure enough to talk. He was sure it was one of two things, family trouble or else she was again an expectant mother. The latter diagnosis was correct, the young mother had not been in good health and when she discovered that she was to again be a mother, she became hysterical and assured the physician that she could not live through it and would commit suicide rather than try it. This patient and her husband had confidence in their family physician, and he had no trouble quieting his patient by assuring her that he would help her. He did not tell her how he would help her. After assurance had driven the tears away, the doctor talked to his patient and suggested that she wait three weeks and return. However, before leaving his office, he told the husband and wife that he wanted them to think seriously because the three of them were being placed in an embarrassing position. Of course they wanted to know what he meant. The doctor explained that if he did what they requested, it would mean that mother, father, and doctor had conspired to commit murder. The usual answer came back, "There is no life yet." They were assured that if there was no life, they had nothing to fear. The results were that three weeks later, when this young mother returned, she had a smile on her face and with tears in her eyes, she thanked the doctor for his advice, placed herself under his care and went away smiling.

Experiences such as this one are common in the life of the family physician but they are not given to the outside world. This is part of the Unwritten Law of Medicine and if the day ever comes that this confidence is destroyed and the patient becomes known only to the doctor by a number or a card, the art and science of medicine will be definitely on the decline. The world will be much poorer from the medical standpoint and it is for this confidence of doctor-patient that we will continue to fight that it may not be destroyed.

Some artist is responsible for a pen drawing which shows a physician with bag in hand, standing under a spreading tree at the top of a hill overlooking the city below. The artist added three verses entitled:

THE WATCHFUL EYE

Alone at dusk upon the peak
He sees the world go by,
And on the humble and the weak
He keeps a watchful eye.

Where sickness and where fevers fight
In homes that know despair,
Faint hearts grow strong and faces light
To see him standing there.

To all mankind his gift he gives,
To mighty men and small;
A modest uncrowned king he lives,
The greatest of them all.

May we work, labor, and pray together that our ideals may not be destroyed, for to destroy our ideals is to destroy us.

Early Diagnosis and Treatment of Pulmonary Tuberculosis–Adult Type*

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UNFORTUNATELY, the average patient with early tuberculosis does not seek medical attention. This is particularly true of our rural and urban districts where medical consultation is inconvenient and the cost of a physician's call is an important item for the wage earner in the lower bracket. However, through education of the public, by health talks, newspaper articles, by radio broadcasts and spreading of knowledge of early symptoms, more and more people are seeking advice on the appearance of symptoms than ever before. Some cities with adequate financial facilities have not only undertaken to control the disease within its domain, but to eradicate it completely. Thus, medical progress is marching down the highway to ultimate success, and we are looking forward to the future when the medical profession and the public will unite in controlling a communicable disease that has cost the lives of two million people and wrecked thousands of homes during the past two decades.

Today, the picture is entirely different from that of the closing of the nineteenth century. Our methods of diagnosis and control are many fold.

Our first line of defense lies in the family physician who has courageously shouldered his responsibility and his desire for a better understanding of our problem of tuberculosis control. In addition to the family physician's knowledge, community health programs are periodically launched under the guidance of experienced health officers. The public is made symptom-conscious, and as a result of this knowledge, seek medical aid earlier than was the custom of a few years ago.

Today, our program of control is sponsored by the National Tuberculosis Association. Many specialists are enlisting, sanatoria and hospital facilities are made available for the sick, clinics, with x-ray machines standing ready to help the private physician and the health department, tuberculin programs for our educational centers are available, millions of Christmas seals are sold annually. Every effort is made to sell the tuberculosis control program to the physicians, health workers and the public.

The National Tuberculosis Association had for one of its slogans—"Early discovery—early recovery," and that slogan prompted the writing of this paper.

Unfortunately, 84 per cent of the patients admitted to the sanatoria of this country are diagnosed moderate or far-advanced, compared to 16 per cent minimal. This ratio should and can be reversed but not without the manifestation of keen interest on the part of the medical profession.

Granted that the white race, and more specifically individual families, may have an inherent racial and familial resistance, the fact still remains that the virulence of the organism apparently remains constant. Even the number of organisms entering the body the first time may have very little influence on the alteration of the tissue; but when the immunity mechanism is deranged following the initial introduction of the bacilli, the natural barriers are crippled, permitting the spread from the original focus. In other words, the body has become allergic following the initial introduction of bacilli and thereafter the symptoms of the host depend on the inflammatory response, whether this be mild local hyperemia resulting in a few local symptoms or necrosis of pulmonary tissue accompanied by severe constitutional symptoms.

No other disease requires more medical skill and alertness for diagnosis than early tuberculosis. All available information should be weighed carefully and at no time is a snap diagnosis excusable. Labeling a young girl tuberculous without sufficient evidence to warrant such a diagnosis is a breach of faith and may blight the life of one who has the right to enjoy the blessings of companionship and motherhood. On the other hand, to clothe a positive diagnosis in such vague terms as a spot on the lungs, inflammation of the lungs. etc., is rendering the patient an injustice and may destroy the one and only chance for life. Frankness linked with scientific investigation is the best policy and no physician is ever justified in withholding the diagnosis of tuberculosis from an adult. In order to whip an enemy, it is best to know his modes of attack.

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Diagnosis: The family history is still extremely important in diagnosing early tuberculosis but with the advent of modern scientific equipment and laboratory technique, it does not demand the respect of previous years. Pottenger of Monrovia, California, in his address before the Kansas medical students. stated that 80 per cent of the early cases could be diagnosed by a history alone. It seems to me Dr. Pottenger is extremely optimistic in his opinion. It is easy to magnify the cardinal points of interest in a history after an x-ray reveals the tuberculous lesion. Of particular importance is a history of exposure to a tuberculous mother, or an affectionate father suffering with tuberculosis. Intimate and long contact with an open case, particularly in crowded quarters, is conducive to the spread of tuberculosis to other members of the family, notably children. Of course, a pulmonary hemorrhage warrants a diagnosis of tuberculosis until proved otherwise, but here this impression is changing. A history of small hemorrhages concomitantly with foul expectoration and clubbing of the fingers frequently is bronchiectasis. As a matter of fact, a greater percentage of bronchiectasis will give a history of hemoptyses than a like number of tuberculosis cases. A history of cough lasting three or more weeks or pains in chest warrant a thorough chest examination. An attack of acute pleurisy commands the attention of the consulting physician and an x-ray should be made, developed and interpreted properly, even though the symptoms occurred weeks or months prior to the patient's request for an examination. Fatigue, slight elevation of temperature and pulse rate and nervousness are among the first constitutional symptoms but they are merely indicative of toxemia and are found in many conditions other than tuberculosis.

Physical Examination: The present national classification gives the wrong implication in its anatomical description of minimal tuberculosis. A pneumonic involvement of pulmonary tissue comparable to one-third of one lung, with a positive sputum and marked impairment of function, is certainly grossly destructive in many cases, yet these features may be included in the classification of minimal tuberculosis. I shall only point out a few principles in the examination of a patient. The patient should be stripped to the waist and seated on a stool opposite the examiner. A quiet room and good lighting are necessary. Many pitfalls await the doctor who attempts diagnosis of early tuberculosis by the way a patient looks. It cannot be done with any degree of accuracy. A slight lag of one side, increased muscle tone over the affected area, slight change in the percussion note and alteration of breath sounds, either decreased or increased, whispered voice may be noted. However, the most important finding is persistent rales over any portion of the chest above the level of the second rib in front and the fourth thoracic spine in the back. If the patient is instructed to exhale and cough when the lungs are deflated, medium moist rales are generally heard with the cough and early inspiration. If the rales are persistent, a tentative diagnosis of tuberculosis is warranted. Failure to elicit any of the above findings does not rule out tuberculosis. It is now a recognized universal fact that a chest examination is incomplete without an x-ray properly made, and interpreted. The modern x-ray is the best single diagnostic feature in chest work. Many physicians in the state have purchased small x-ray machines during the past two years. The medical staff at the Sanatorium is glad to pass an opinion on all films referred for interpretation. However, we do receive many films that are improperly made. All films, when possible, should be made with the patient standing. The organs are in their proper relations and fluid levels can be seen. L. R. Sante states: "The position in which a roentgenogram is made is designated by the direction of the ray from its entrance to its exit. For example, if the chest wall is in contact with the film, the ray coming from behind, traverses first the posterior and then the anterior portion of the chest and the view is called postero-anterior view."

The shoulders should be in apposition with the cassette and if the back of the hands are placed on the hips and the elbows forced forward, the scapulae will not appear in the film. Satisfactory films are made by requesting the patient to take a deep breath. After the inspiratory act is complete, the exposure is made.

The tuberculin test occupies an honored place in chest clinics. It was formerly thought that 90 per cent of all adults, particularly of urban districts, gave a positive reaction. We do not believe this is true today. Probably less than 60 per cent of all adults show evidence of tuberculous infection.

Dr. J. W. Dugger, director of industrial hygiene and factory inspector of Mississippi, tuberculin tested 2727 employees with the purified protein tuberculin. He found 792 or 29 per cent of this number positive reactors. Twenty-four patients were definitely diagnosed as having tuberculosis, while seven were classified as suspicious. Therefore, approximately 1 per cent of those persons examined in our factories in Mississippi so far were found to have active tuberculosis.

This might be partially explained by the decreasing morbidity and death rate, the standardization of tuberculin, better technique of administration and interpretation of intradermal tests.

LABORATORY EXAMINATION: The finding of acid-fast organisms in the sputum of a suspected tuberculous patient is usually sufficient evidence to warrant a positive diagnosis. However, if only one or two organisms are found in a series of slides, the case should be reported suspicious and another specimen collected for examination. There is always an element of error in any laboratory. Occasionally, the slides are not cleaned properly. Todd and Sanford point out that leprosy, smegma, butter and grass bacilli and a bacillus found in old, distilled water may be confused with the tubercle bacillus. However, as Lawson Brown points out, there is still but one pathognomonic sign of pulmonary tuberculosis—tubercle bacilli in the sputum. Occasionally, if the sputum is concentrated or cultured or a guinea pig inoculated, a positive diagnosis is possible. Magee claims the rate of increase of immature neutrophils bears a definite relationship to the seriousness of the disease. In the suspicious cases, an increase of 20 per cent to 40 per cent of immature neutrophils was found, while in far-advanced cases, the immaturity was 50 to 80 per cent.

DIFFERENTIAL DIAGNOSIS: Bronchiectasis is frequently confused with tuberculosis. A history of cough, expectoration and small hemorrhages over a period of months or years and the absence of tubercule bacilli in the sputum, and the presence of bronchiectatic cavities following intra-tracheal injection of lipiodol will generally clinch the diagnosis. There is very little danger of lipiodol injection in the presence of tuberculosis providing postural drainage is instituted at once and continued intermittently for the following twenty-four hours.

In asthma, generally a certain degree of emphysema is present. The peribronchial markings extend into the apices as well as throughout the entire lung, but actual infiltration must be seen or a positive sputum examination for tuberculosis obtained, before a positive diagnosis can be given.

LOBAR PNEUMONIA OF UPPER LOBE: Lobar pneumonia of the upper lobe may be confusing if a single examination is made but with serial x-rays, history of acute onset, evidence of consolidation and pneumococci in the sputum, the diagnosis is seldom difficult.

Tuberculosis of the lower lobes may be confused with bronchopneumonia. However, here the condition is rare and a diagnosis of tuberculosis should not be made without a positive sputum.

Abscess of the upper lobe should offer very little difficulty in diagnosis for a history of acute onset, foul expectoration and clubbing of the fingers rarely occurs in tuberculosis and possibly never in early tuberculosis.

BRIEF HISTORY: Case No. 1. Patient was examined April 2, 1935. History of several small pulmonary hemorrhages. The x-ray interpretation was as follows: Tense infiltration extending from the clavicle to the third interspace with greatest density in second interspace where there is probably a small cavity. The diagnosis at this time was moderately advanced, active tuberculosis.

Two months after the x-ray was made, the patient had a coughing spell, followed by foul expectoration. At the end of the next thirty days, the patient had improved considerably. The x-ray August 18, 1937, showed old fibrotic-appearing process in the second interspace anteriorly. Marked clubbing of fingers. Diagnosis: abscess of lung, healed.

During the past few years, a divergence of opinion concerning the proper treatment of early pulmonary tuberculosis has existed among American phthisiologists. Amberson believes the "rest trial" demands first place in early lesions and that collapse of the lung by pneumothorax or temporary paralysis of the phragm should only be used when the rest treatment alone does not show definite, steady, favorable progress. Furthermore, Amberson claims in his study of a group of patients over a period of one to ten years, that the above mentioned operations do not shorten the desired time of treatment. This opinion is voiced by many members of the earlier school who cling tenaciously to the watching and waiting principle, hoping that nature per se may heal the early lesions.

But, it seems to me, in treating tuberculosis, every force available should be used to combat the disease and as Dr. Meyers points out: "There are three main objectives in the treatment of pulmonary tuberculosis: the first, to check the spread of the disease and the breaking down of tissues in the individual patient at the earliest possible moment; the second, to prevent the lesion from disseminating tubercle bacilli to others or stop such dissemination if it is already occurring when the disease is diagnosed; the third, to continue the working capacity of the patient or restore him in the shortest possible time consistent with the safety of his health and associates. To attain these objectives, collapse therapy is more effective than all the other methods employed throughout the ages. The less extensive the pulmonary involvement when treatment is begun, the better the prognosis, generally speaking. It is an established fact that if the disease is not arrested within a short time, destruction of tissue, terminating in cavity formation will result."

BRIEF HISTORY: Case No. 2. — This patient was examined about twelve months ago. At that time, no evidence of tuberculosis was found. Approximately eight months later, another x-ray was made and tuberculous infiltration was found in the right apex. She was a student at that time but was permitted to remain in school. An additional x-ray was made one month later and at this time, a cavity was found and pneumothorax begun. No symptoms since admission to the sanatorium.

The above case illustrates the danger of waiting and watching. Had treatment been instituted when the case was diagnosed, probably cavity formation might never have occurred.

Furthermore, in the earliest type of apical or subclavicular lesion, a temporary phrenic nerve interruption will often bring about startling results. It is that added assistance that often brings about the absorption of the active process.

No type of operation has ever replaced artificial pneumothorax as the universal operation of choice in early tuberculosis.

BRIEF HISTORY: Case No. 3.—

Much has been published during the past few years concerning ambulatory artificial pneumothorax. The State Sanatorium is an anxious to train physicians who have not had experience in this type of operation. Special quarters are provided without charge for state physicians who wish to take advantage of this privilege. During 1937, physicians from various parts of the state enrolled at the Sanatorium for this course. North Carolina, Georgia, Michigan and other states have adopted the principle of returning the patient to the family physician for continuation of pneumothorax.

Naturally if the treatment is begun early, better results are expected. It is impossible to foretell by x-ray appearance of an early lesion to what extent pneumothorax will be successful, and only after failure to collapse the lung by this means should more radical surgery be considered.

DISCUSSION

DR. J. S. HARTER (Sanatorium): Certainly in the control of any tuberculosis, or as a tuberculosis control program, recognition of the early case is certainly a very necessary thing as well as digging up the chronic case which is the cause or the source of infection of the early tuberculosis in the young person. The chronic patient with tuberculosis is not usually pretty sick, and for that reason he goes on for months and maybe years, spreading the tuberculosis germs around his community and infecting the young people of his community and causing tuberculosis to spread. All these patients with tuberculosis should be considered as being infected from some chronic person in the community, whether in his own family or outside of his family, so that when we find an early case it is necessary to look back and find the source of his infection. After you have found the source of it—the early case—then what to do with it? That is where the argument starts and it is quite necessary to come to some decision as to how we are going to treat these early cases. Unfortunately there is no rule that can be made for the treatment of early cases of tuberculosis; each one is a separate problem. We try to hit a happy medium between the persons who are radically under treatment, by giving all persons with early tuberculosis collapse therapy. Persons in the teen age, between 10 and 20, who have early tuberculosis, where we are absolutely sure it is tuberculosis, get collapse therapy of some type but in almost all of them pneumothorax is given to them. After 20 years of age a great deal depends upon the individual himself. Sometimes we are able to hold it for a few weeks and decide whether he shall have collapse therapy or not. Usually from 20 to 30 they get collapse therapy; after 30 years we are more inclined to wait a few weeks and find how that individual is going to take care of his tuberculosis. If the sputum is positive and he has what we consider as small cavities, he probably will have pneumothorax. Phrenic nerve operation is used occasionally; occasionally they do heal up, but where tubercular infiltration of the lung is present small amounts of collapse by pneumothorax is possible with less complications than you get with other operations. It is not dangerous under control at the Sanatorium. Many of our patients have been re-examined at the end of the year, of course, that is the minimum case, and can go along for at least another year. As soon as the pneumothorax patients are established over the state to a greater extent than we have at the present time, it will be possible to increase the capacity of the Sanitorium without increasing the bed capacity. As soon as we can put these patients with pneumothorax back home again and let their physicians give them the pneumothorax, we can possibly give our turn-over another 30 or 40 per cent, so it not only saves the individual a considerably lengthy stay in the hospital, but it more readily assures him of cure.

An interesting study was reported in 1936 in New York of early tuberculosis, in which they had taken a number of patients in Chicago who had minimum disease and treated them on bed rest, and a similar number of similar type were treated with pneumothorax. The group that was treated with pneumothorax had no mortality, also at the end of the year 90 per cent were out of the hospital and the others will soon be discharged. Out of the group who were not given pneumothorax, 60 per cent improved, 40 per cent got worse and they all had to have collapse therapy, and there were two deaths. So here is a mortality rate of zero on collapse therapy.

DR. ANDERSON (Closing): I wish to thank Dr. Harter for his discussion of this paper. I wish to take issue with him on one point regarding the administration of pneumothorax. As you well know, many of these so-called early cases of tuberculosis are not suitable for pneumothorax because the pleura over the apices is adherent to the chest wall. Certainly in these cases, if pneumothorax cannot be given, we should do the next best thing—which is phrenicotomy. I have seen many of these cases improve following such operations.

Some Statistics Concerning Chronic Simple Glaucoma*

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On March 13, 1936, a colored woman, M. H., 51 years of age, presented herself as a patient in the eye clinic of the Eye, Ear, Nose and Throat Hospital, New Orleans, La., with an absolute glaucoma in her right eye and 99.9 per cent visual loss in her left eye. Tension with a Schiotz tonometer was 64 mm. in right eye and 55 mm. in left eye with deep cupping of each disc and bilateral optic atrophy. She had never consulted an eye physician but had been in the hands of an optician for two years and had been given glasses which she thought would correct her visual defect.

Statistics emanating from census reports and surveys made in states where blind pensions are granted, tell an identical story of appalling wastage of eyes and eyesight from this one cause. The above mentioned case and many others of a similar nature prompted a study of the case histories of glaucoma patients in the eye clinic of that institution. This brief analysis was limited to those cases diagnosed as chronic simple or compensated glaucoma because these are the patients who are most apt not to consult an eye physician as they have no pain or inflammatory reaction. They are usually given glasses by someone and frequently are having these changed while all of the time they are surely losing useful vision.

It must be remembered that chronic noninflammatory glaucoma is a definite clinical entity which does not have an inflammatory phase and is the most malignant condition the eye physician has to combat. It never passes into the form of chronic incompensated glaucoma although both may terminate in absolute glaucoma.

During the period from January 1, 1931, to March 1, 1936, with the exception of 15 months during 1933-1934 there were 13,522 patients treated in the eye clinic of the Eye, Ear, Nose and Throat Hospital at New Orleans, and of those 122 were patients with chronic simple glaucoma. Thus we see that 0.9 per cent or almost one out of every 100 patients were victims of this malady, and diagnosed as such. Many others no doubt went unrecognized, as frequently patients failed to return for further study.

However, as a slit-lamp study was not made in the majority of these patients, it is highly probable that many of these were actually suffering from secondary glaucoma and a mistake was made in the diagnosis given the case. Some of the younger patients might also have been grouped under the heading "juvenile glaucoma" as is usually done in such cases. This would have reduced the total number of cases somewhat and would have been more in accord with recent figures on glaucoma at the Wills Hospital by Lehrfeld and Reber who found about 0.56% per cent of the patients between 1926-1936 to have chronic simple glaucoma. Gradle states "that in metropolitan areas this forms about 3 per cent of all pathologic conditions of the eye and is about 10 times as frequent as the incompensated forms of glaucoma."

As to the type of patients, it was noted that there were 67 white (54.1%) to 55 colored patients (45.9%), whereas more than 50% of the entire number of patients in the clinic were colored. It was also interesting to note that the ages of the colored patients were much less than the ages of the white patients, the average age of the colored patient being 47 years as compared to the white patient which was 57 years at the time of admission to the clinic. The ages were grouped for comparison in the following table:

Years	White	Colored
20-30	2	5
30-40	2	8
40-50	2	11
50-60	20	15
60-70	25	15
70-80	14	1
80-	2	1

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*Read before the Section on Eye, Ear, Nose and Throat at the Seventy-first Annual Session of the Mississippi State Medical Association, Jackson, April 19, 1938.

Age plays a somewhat lesser role than in the incompensated forms, as compensated glaucoma may be found from the age of puberty upward. As a rule, 30-35 years is the lower limit and there is no upper limit.

As to sex, there were 78 females (64%) as compared to 44 males (35.3%). This is according to the usual statistics given which are in the ratio of women to men in the proportion of 5 to 4.

An attempt was made to determine the central visual acuity efficiency and visual field efficiency, but as many of the patients were not refracted this could not be done accurately. However, it was noted that more than one-half of the patients did not consult an eye physician until visual loss amounted to more than 50% in one eye with the form field reduced even more.

It has been stated that the disease occurs more frequently among the Jews, Negroes and Orientals than among Caucasians, but no race is exempt. Heredity plays a definite but not an important role, particularly when the disease occurs in younger individuals. It often occurs earlier in each succeeding generation.

It is a disease which is common to all classes and is therefore largely independent of nutrition or hygienic conditions. Both eyes are always affected although the intervening time interval may be considerable, so that it must be considered a disease of the patient and not a disease of the eye.

The refractive error of the eye is of interest as it was formerly believed that only hyperopic eyes were subject to compensated glaucoma. This is erroneous, however, as Gradle has shown that in 77 recent cases 50 were hyperopic, 19 myopic, and 8 had mixed astigmatism.

Failing eyesight occurring at any age above puberty does not connote in the public mind the notion or disease; it merely suggests a visit to the optician to secure stronger glasses. Failing eyesight from chronic simple glaucoma is not differentiated by the public from failing eyesight due to increasing presbyopia. So long as glasses of increasing strength enable him to read fine print, he does not become aware of the encroachment of his peripheral vision.

Unfortunately, too, for his welfare, pain is conspicuous by its absence. If pain is present, it is usually a dull ache and is thought to be a neuralgia or a reflex from a disordered stomach. Foggy vision and rainbow rings about lights are often thought to be a bilious attack and a brisk purge usually relieves these symptoms convincing the patient that he was correct in the diagnosis of his condition.

The textbook description of the disease gives a picture of inflammatory or well developed non-inflammatory glaucoma rather than the onset. The pain, the ciliary congestion, the enlarged veins of the sclera and conjunctiva, the steamy appearance of the cornea, the dilated pupil, discoloration of the iris, greenish reflex of the lens, loss of accommodation, pale disc and deep excavation, arterial or venous pulsation, contracted visual fields and the halo about light are all signs and symptoms of neglected glaucoma. When these are present, the diagnosis may be easy but much of the vision or field may be lost. The disease must be recognized before these symptoms are present as late operation offers little hope of improvement.

Much has been written on the early diagnosis of glaucoma very recently and some of the most practical points noted will be briefly mentioned.

Every patient above forty years of age should be regarded as the possible possessor of pre-glaucomatous eyes. T. D. Allen in his graduate lecture at the Academy meeting last October stressed again the value of a regular routine in the examination in order not to overlook important details. Definite notations should be made at the first examination even though they have no bearing on the patient's condition at that time. On a later visit these may be of distinct value if there have been changes in the interim. These patients are usually of an anxious nervous disposition. Most careful attention must be given to the patient's account of his symptoms and any inclination to belittle or explain these as though they were of no consequence should be avoided. Some patients just sense that all is not well with their eyes without any definite symptoms, and these patients should be given a most careful study. The attitude of the eye physician should be that these eyes are guilty of glaucoma until proved innocent.

The most usual symptoms of which the patient complains is the recurrent dimness of vision in one eye. This may last for a few hours or a few days but disappears spontaneously.

Every presbyope in which there is any suspicion of the disease should have the benefit of several tonometric measurements. Intra-ocular pressure is apt to vary somewhat at different times in the day; therefore, if possible the several estimations should take place in the morning, noon and afternoon.

The presence of increased tension at one or more tests would not necessarily answer the diagnosis, but would be highly suggestive of glaucoma. The presence of tension persistently higher in one eye than in the other should awaken a strong suspicion of the presence of glaucoma. Haden insists that tonometry should be as much a routine in ocular examination as urinalysis in the general physical examination. He supports his thesis by a recital of cases in which increased tension was noted often in one eye, sometimes in both eyes, and in which other tests failed to disclose any other signs of glaucoma. Some such cases he has followed for a long period of time without finding diminution of vision, gross changes in the fields, glaucomatous cupping, or other classic symptoms of glaucoma. But he states that "unless remedial measures are used to bring the tension to normal limits, these secondary changes ultimately and inevitably occur."

Haden tabulated totometric readings on over 5000 cases and the average was found to be from 16.50 to 18.54 mm. with the Schiotz tonometer. Standard for normal tension was estimated by Gridland at just above 20 mm. (Schiotz). Traquair states that it is slightly lower.

A more difficult question is the maximum standard for non-pathological cases. This has been stated to be 25 mm. Hg. Traquair is very suspicious of eyes with a tension over 22 mm. Gradle states that "so called normal tension cannot be given a numeral value but can be defined as that degree of intra-ocular pressure which the tissues of the eyes are able to withstand without damage to function."

Intra-ocular pressure rises during the night and the time usually given for the highest tension in the eyes is between 5 and 7 a. m., but this diurnal variation should not exceed 5 mm. in healthy eyes.

In the normal eye a drop of eserine solution produces only a slight if any alteration in tension; but in many glaucomatous eyes in which the tension does not seem unduly high, a distinct fall occurs within an hour. When this occurs, a tentative diagnosis of glaucoma is strongly supported. In suspicious cases the drinking of several cups of coffee or confinement in a dark room as a provocative measure may be tried.

Green advocates a homatropine test in suspected cases. This is carried out by instilling 1 per cent solution of homatropine in each eye after recording the tension. The tension is recorded at varying intervals while the pupil is dilating. A definite rise of tension, even though moderate, he regards as sufficient to classify the eye as pre-glaucomatous. He promptly counteracts any such midriasis with eserine or pilocarpine. It might be mentioned, however, that one of the cases included in the report, a negro girl, twenty-three years af age, suffered an acute congestive attack of glaucoma in both eyes following a homatropine refraction which necessitated both eyes being operated upon.

Repeated instillation of adrenalin 1:1000 was found by Knapp to produce dilation of the pupil in a fairly high percentage of glaucomatous eyes.

A difference in the contraction time of one pupil as compared with the other after a stay in a dark room is very suspicious. The lack of the minute oscillatory movements of the pupil and a slowing of the contraction time upon illumination with light of moderate intensity are other signs which may be present.

Dark adaptation is disturbed early in compensated glaucoma. It becomes normal again, however, if the tension is maintained at a normal level.

Field changes are not initial symptoms but are only present when the glaucomatous process has been present for some time. To quote Traquair again, "only very rarely can even the earliest field changes be found before ophthalmoscopically visible alterations are present in the optic disc. The idea that no scotomata, or no enlargement of the blind spot, no glaucoma, is passed. Since field changes in glaucoma can only occur as a result of the glaucomatous process, there is a period which may be as long as 8 or 10 years or more following the beginning of the disease during which no field changes are present. This may be called the pre-perimetric stage of glaucoma. The more expert one may become in detecting the earliest signs of field alteration, the shorter will be the pre-perimetric stage."

The refraction of the eye may be changed by the increase in intra-ocular pressure with a tendency toward an increase in hyperopia. As the tension is reduced with miotics there is apt to be an increase in myopia. So it must be borne in mind that it is unwise to correct a refractive error early in a patient upon whom miotics are to be used over a long period of time.

After the diagnosis has been made, the question arises as to what is to be done for these patients. If the average age at which the diagnosis is made as found in this census is correct as given at 47 years for colored patients and 57 years for white patients, then they have a life expectancy of from 10 to 20 years to carry on with glaucoma. In deciding what to do for these patients one must individualize each patient and consider the psychic effect on the patient as well as the pathology in the eye.

Naturally, operative measures are the most fashionable ones. But bearing in mind our principal job, the saving of sight, we must treat these as we would wish ourselves to be treated. Even in the most expert hands, a simple operation may be disastrous. Operation is not always "curative" even when successful. Surely no one would operate upon an early glaucoma simplex without trying out the many non-operative procedures first. We all know of cases who have carried on for many years with elevated tension apparently none the worse for it, and yet have many times seen other patients whose ocular tension was permanently reduced by a successful operation go on to lose all of their useful vision.

The non-operative means are: (1) milder miotics-pilocarpine muriate 1 to 2% up to 6 times daily; (2) stronger miotics-eserine salicylate if it does cause too much pain or reaction, one-fourth to 1% two to four times daily; (3) violent reduction of the tension in the office occasionally by the use of epinephrine or laevo-glaucosan to be followed at home by the pilocarpine or eserine or both; (4) dionin may be of benefit; (5) massage if skillfully done may be of value; (6) bromides or other sedatives, and avoid excitants. The importance of regularity of treatment should be impressed upon the patient as well as the danger of neglect. It is more or less useless, however, as well as mentally disturbing, to try to change the normal manner of life to which one is accustomed.

It is true that we will get good results in less than 50 per cent of these cases by these measures and so many may come to operation. It is usually very important to carry out the same form of therapy after operations as before.

It is surprising to find that 96 of the 122 patients (78.7%) were operated upon and that 26 are being treated conservatively with miotics or failed to return for further treatment. A total of 122 operations were performed on those 96 patients as follows:

1. Elliott trephine—54
2. Iridectomy—24
3. Sclero-iridotomy—13
4. Iridotosis—11
5. Iridencleisis—3
6. Cyclodialysis—3
7. Paracentesis—3
8. Enucleation—13

It is shown that 10.6% of all patients with chronic simple glaucoma reached the stage where the eye had to be removed.

Reports from the larger institutions including the surgery of many operators show that the most successful results are obtained by doing the Elliott trephine operation. Favorable results are reported with this from 74% at the Wills Hospital to 92.8% at Johns-Hopkins as compared with 44% and 66% for cyclodiolysis and 61% and 63% respectively for irridectomy. An accurate survey of the results in the reported cases could not be made, but it appears that the Elliott trephine here gave by far the best results.

SUMMARY

1. A series of 122 patients with chronic simple glaucoma exclusive of infantile and juvenile types, out of a total of 13,522 patients seen in the eye clinics of the Eye, Ear, Nose and Throat Hospital in New Orleans is reported.

2. An attempt to emphasize the importance of early diagnosis together with some of the procedures at one's command in making an early diagnosis are mentioned.

3. The tremendous public health problem of this disease must be re-emphasized.

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DISCUSSION

Dr. A. G. Wilde, (Jackson): In considering the question of glaucoma we must not lose sight of the fact that while we know the effects, we have not as yet attained the causative "how" or "why." It is a clinical entity merely in the sense of its later manifestation, i. e. an increase in intra-ocular pressure, and the changes incident thereafter.

The terms employed in its designation have been many, and in some respects unfortunate as they lead to confusion. Until we are on a more secure causative basis, I believe the designations, acute and chronic congestive, and chronic non-congestive glaucoma are perhaps preferable. This is based upon the most prominent external manifestation, i. e. engorgement or non-engorgement of the venous system. No recognition has as yet been made of the incipient symptoms of the non-congestive form.

It so happens that I have practiced ophthalmology in most portions of the United States, Central Europe and Eastern Asia, and nowhere have I found the incidence of glaucoma as high as we meet here in Mississippi. I am constantly amazed at the frequency with which glaucoma patients present themselves.

The real tragedies this condition brings to us are those patients who for a long time have noted nothing but a gradual deterioration of vision, for which glass after glass has been purchased. I really mean "purchased," not fitted after competent examination. Each glass seems to afford some temporary improvement. Finally a stage is reached where such improvement is no longer possible. Then noting they are in the cataract age, and their pupils are grey, they are told they have "cataracts," and must wait until all vision has disappeared, and then be sent in for operation. So these unfortunates watch the world slowly fade to twilight and then with hearts filled with hopes and pockets filled with spectacles they present themselves for a quick and certain restoration of vision. On examination it is seen their tension is elevated in each eye, the lenses are perfectly clear, both nerves are in glaucomatous atrophy, and the prognosis is hopeless. To tell these victims the blasting truth that their vision is hopelessly lost is the most trying experience we have.

I question the fitness of the term "malignant" for glaucoma. Malignancy of such definite significance in pathology, I believe should preferably be classed as "insidious." This refers primarily to the chronic non-congestive type, as the acute glaucomatous attack leaves no doubt of its presence. The acute form is so quickly discovered and so amenable to treatment, it is unfortunate that all cases are not of this variety.

Unless the condition is clearly evident the first question we ask ourselves, irrespective of the patient's complaint is, "Is this another glaucoma?" Nothing is done until that is settled. Being constantly on the qui vive may in part explain our high incidence.

The following figures show those that have been seen in our office during the past five years: total 172 cases of glaucoma, acute and non-congestive, male 98 or 57%; female, 74 or 43%; acute, 65 or 37%; non congestive 107, or 62%.

I heartily concur with Dr. Rouse in his statement that in glaucoma we must individualize the treatment. In no other place can a blind rule of thumb or sacred formula be used with such disastrous results. As he says, "Our principal job is the saving of sight," and to this everything must be subservient.

These patients are frequently below par generally, with hypertension, poor elimination and evident focal infections. These we endeavor to improve as soon and as far as practical. This must often stop short of perfection. How much direct effect these measures have on glaucoma, I am not able to state. Certainly they increase the general resistance and reparative powers of the patient, and efforts to that end cannot be superfluous.

In chronic non-congestive glaucoma, the broad based iridectomy is useless. As the chief symptom we are combating is increased intra-ocular tension, this is the first object of attack. Where the condition is found to be progressing, some form of filtering operation must be done. We have tried most of them, and have met with success and failures in each. I abandoned the old Legrange after seeing some particularly bad results following. We then did the Elliott trephine, and where a thick conjunctival flap is made, no hemorrhage occurs and with a liberal piece of iris pulled through the trephine opening, results are often good and permanent.

For about five years I have used the Holth iridencleisis, again under a thick flap, and where the iris inclusion is adequate there is certainly a well-marked lowering of tension. In fact, twice it was so low, I partially closed the filtering space, lest the effects of hypotension be produced. Where an iridencleisis needs reinforcement there is always the cyclodialysis of Heine, which can be repeated as needed. I have in mind the Mauksch operation, which combines iridencleisis with cyclodialysis, and this can be tried when the elevated tension is especially resistent.

The most difficult case, and one which occurs with distressing frequency, is one in which one eye has been hopelessly blinded by glaucoma, and the other reduced to a field of perhaps five degrees around the point of fixation. Of course, if nothing is done, this second eye will follow the first. However, in these, operation should be entered into like matrimony, i. e. not unadvisedly nor lightly, but reverently, discreetly and advisedly, soberly and in the fear of God. The patient prizes that remnant of vision more than rubies, and any operative attempt may blot it out forever. Therefore, preserve it as long as possible by therapeutic measures, and you may preserve your patient's gratitude even though his tiny speck of vision is ultimately blotted out.

In the chronic non-congestive glaucoma, medication should first be tried. With added years and experience I find I am not as prone as I once was to rush to operation every glaucoma that is run to earth. We should adopt such measures, therapeutic or operative as in our hands, yield to our patients the highest percentage of relief. Whatever the type of glaucoma under observation, frequent examination is paramount. Until we discover the prime lesion we must rely chiefly on the form fields and blind-spots. For their delineations the old dust-covered perimeter is hardly adequate. Some form of tangent screen must be used, by which the abnormality can be magnified and rendered more evident. In our office we have used the Thomasson screen since its introduction eleven years ago. This is augmented at times by the campimeter, or small hand perimeter for bad patients. No case can be regarded as stationary where the visual field is shrinking, or the blind-spot undergoing enlargement. In estimating the condition of the glaucoma, the chief factors in the order of importance are: (1) the form field and blind-spot; (2) the intra-ocular tension as actually measured and not merely estimated by fingers; (3) central visual acuity; (4) fundus changes. The characteristic fundus changes are the last to appear, hence the least important for diagnostic value.

Dr. W. L. Hughes (Jackson): In discussing Dr. Rouse's paper, too much emphasis cannot be placed on early diagnosis. Unfortunately, we see these cases—or recognize them—after permanent damage has been done. Although the cause of chronic simple glaucoma is often obscure, recent reports by Wright and Kirwan, of India, of its occurrence as an almost invariable condition in epidemic dropsy occurring in that country, due to a diet of stale rice, should emphasize the importance of diet as a cause as well as in its treatment.

As Dr. Rouse has particularly stressed diagnosis, I want to talk more on treatment. I agree with him that in early cases miotics and other medical procedures should be tried. Unfortunately, most of the cases we see are rather late, and medical procedures have been disappointing. Even when tension is controlled, careful and regular visual and field examinations should be made, and where there is a progressive loss, operation should not be delayed. Field changes are of particular importance, since central vision may remain acute with marked contracture of the field.

The choice of operation and its results seem to depend upon the operator. I was a resident for one year in the clinic during the time Dr. Rouse reports this series of cases, and, as noted by him, the Elliott trephine was used more than all other operations combined. I was impressed most by the poor results obtained.

Five years ago Dr. K. W. Constantine, of Birmingham, read a paper before our section on "Iridencleisis." The simplicity and the results he reported interested me very much. Since that time we have used it almost exclusively, and with very gratifying results. Its principle of incarcerating the iris in a scleral wound is frowned upon as unsound surgery by many texts. However, this is not confirmed by reports of those who have used it. Dr. Frank E. Burch, of St. Paul, Minn., reports 164 cases in which iridencleisis was done, with only 6 cases of severe iritis (and these responded to treatment), no sympathetic ophthalmia, no postoperative infections, and only 9 cases, or 5% required a second operation.

Drs. Allen C. Wood and Edward P. Burch of the Wilmer Institute of Baltimore comparing the results of corneoscleral trephine, iridencleisis, and iridotasis in 69 white cases of chronic primary glaucoma, reported successful results as follows: corneoscleral trephine 72%; iridencleisis, 85%; and iridotasis 82%. In their study, the case must have been followed for six months postoperative, vision, field and tension must be as good as preoperative without use of miotic drugs. They conclude that the iris-inclusion operation is attended with less operative risk, less immediate postoperative complications and fewer potential late complications than the corneoscleral trephine of Elliott.

During the past eighteen months, Dr. Van Dyke Hagaman and I have used this procedure in some 15 to 20 cases. There have been no complications; and, in only one case has tension failed to remain normal. I have one case operated upon in the summer of 1933 that had only one telescopic central vision at the time of the operation that has retained that vision and normal tension without miotics. I think iridencleisis the best of the operative procedures in my hands; and commend it, due to its simplicity to those having a limited surgical practice.

* * *

As surgeons keep their instruments and knives always at hand for cases requiring immediate treatment, so shouldst thou have thy thoughts ready to understand things divine and human, remembering in thy every act, even the smallest, how close is the bond that unites the two.

—Marcus Aurelius.

Results and Implications of a County-Wide Syphilis Survey*

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As a part of the general public health program organized in Pike County,† Miss., and after policies and procedures had been worked out with the Pike County Medical Society, a syphilis clinic was established in February, 1935. The clientele of this clinic is drawn from contacts of the various other programs of the health department and from individuals referred by private physicians to the clinic for diagnosis and treatment. In the first year of the clinic's organization, 298 patients were registered with the clinic and in the second year 350. Under such arrangements it is left entirely to the patient to recognize the need for medical care and to take the first step in securing it. Obviously the service is brought into contact with a small percentage of the total cases in the area since many individuals do not seek medical aid because of ignorance of their condition, indifference, or inability to pay for medical service. Recent studies in Mississippi and in other areas have indicated that far more frequently than was formerly suspected, syphilis occurs in family epidemics and also that the number of infections which occur and are unrecognized represents a sizeable proportion of the total cases. The present reporting practice in Mississippi does not provide the opportunity for epidemiological investigation of this disease by organized health departments which is offered in the case of typhoid fever, diphtheria, or even tuberculosis, and so the treatment and control program in the county was circumscribed in its influence.

For these reasons, and to form a base line from which the influence of the treatment program might be measured, cross-section survey of the incidence of syphilis in the area was proposed. The general plan of the survey was discussed with the County Medical Society and endorsed by them well in advance of its initiation. Local physicians offered their assistance in acquainting people with the plan, and the facilities of their offices for the meeting of groups from which blood specimens were drawn. The plan for the conduct of the study provided for the examination of blood specimens from a representative sample of the population for malarial parasites as well as for evidence of syphilis. As the incidence of malaria in the area was relatively high this was of material assistance in motivating people to submit blood specimens. As the study progressed, however, due in part to careful local education and to the development of wide national interest in the subject of syphilis, this aspect of the survey came more to the fore and toward the end of the study there was no evident difference in the interest in the disease of malaria and the disease of syphilis.

ORGANIZATION OF THE SURVEY

In order that the sample of the population might be representative, it was decided to secure specimens from 5,000 individuals (approximately 15 per cent of the total population) distributed in each of the five supervisors' districts. Table I shows to what extent it was possible in each of the population groups to secure specimens from the projected 15.5 per cent of the population.

It will be noted that in District I, for example, only 6.2 per cent of the white females under five were included in the survey group. The entire population, as shown by the census in this group is 81, and the aim of the survey was to secure blood specimens from 13. However, it was possible to secure specimens from only 5. This is an indication of the failure of this method of securing specimens so far as this particular age group is concerned. However, considering all white females

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†Pike County is in south Mississippi and has a population of 32,000 of which 45 per cent are colored.

TABLE I

Percentage Distribution of Sample

	Under 5	5-14	15-24	25-44	45-64	65 plus	Total
DISTRICT I							
White male	10.2	16.4	13.8	16.9	15.6	16.7	15.0
White female	6.2	16.2	16.5	15.8	16.9	13.6	14.9
Colored male	14.3	15.2	14.1	16.4	14.9	14.0	15.0
Colored female	14.2	15.6	15.8	15.0	15.4	15.4	15.3
DISTRICT II							
White male	7.6	14.6	16.9	15.4	15.8	15.6	14.7
White female	8.0	14.8	15.6	17.0	15.6	14.9	14.9
Colored male	10.0	15.7	15.6	14.7	14.4	14.5	14.6
Colored female	15.4	15.4	15.0	15.8	14.5	15.1	15.3
DISTRICT III							
White male	16.7	14.1	15.6	15.1	15.6	13.6	15.2
White female	16.2	14.2	15.3	16.0	16.4	19.0	15.6
Colored male	15.9	15.5	16.0	15.9	15.7	14.7	15.7
Colored male	15.9	15.5	16.0	15.9	15.7	14.7	15.7
Colored female	15.8	15.4	15.5	14.8	14.7	15.6	15.3
DISTRICT IV							
White male	8.8	15.3	15.6	15.5	15.4	15.2	14.8
White female	5.8	15.7	16.1	15.4	15.2	15.5	14.6
Colored male	14.9	15.7	15.4	15.6	15.1	17.7	15.5
Colored female	14.6	16.3	14.8	15.7	15.4	15.0	15.5
DISTRICT V							
White male	6.4	15.7	15.0	15.7	15.7	13.9	14.3
White female	7.3	15.8	16.0	17.9	15.5	5.4	14.7
Colored male	16.3	16.7	14.9	14.5	13.5	17.6	15.4
Colored female	14.5	16.0	15.9	15.2	15.2	15.4	15.5
TOTAL	11.0	15.4	15.6	15.6	15.2	15.0	15.0

The figures indicate the percentage of population distributed by age, sex, color, and civil district which was included in the suggested sample.

in this district, 14.9 per cent of them submitted specimens. The greatest difficulty in securing the quota was experienced in the age group under five. In the survey group specimens were obtained from only 11 per cent of the total population and if the excesses of specimens in certain districts are included, that is the entire group for whom serological examinations were made is considered, this percentage of the total population is raised to only 11.6 as is seen in Table II. Aside from this age group, the sample is 15 per cent or better in all of the other age groups as shown in Table I. When the total group examined (Table II) is distributed by sex, color, and age, it will be seen that for no group except the under five is the proportion of population examined less than 16 per cent.

Before undertaking the field work, organized community groups and influential citizens over the entire county were approached and the plan and purpose of the study dis-

TABLE II

Percentage of Population Given Serological Examination for Syphilis by Sex, Color, and Age

	Under 5	5-14	15-24	25-44	45-64	65 plus	Total
White male	9.1	16.2	19.1	20.7	16.6	16.8	17.3
White female	7.3	17.9	18.3	21.1	17.2	15.9	17.5
Colored male	14.6	19.7	18.9	20.2	16.1	24.4	18.7
Colored female	16.6	19.2	18.6	20.5	16.7	18.1	18.7
TOTAL	11.6	18.2	18.7	20.6	16.7	18.6	18.0

cussed with them. A single individual was selected to collect the specimens in order to reduce to a minimum the personal equation in the field techniques and to keep this activity somewhat distinct from the routine activities of the county health department. A nurse with considerable field experience was added to the regular staff for this purpose. Her first two weeks in the county were spent making home visits with the other nurses of the staff in order that she might gain a knowledge of the geography of the county and make as many direct contacts with the general population as possible. The field work of collecting specimens extended over a period of six months, two-thirds of which was devoted to group meetings which were planned a week in advance, each day being spent in a different civil district. Groups were organized either by contacting some community leader and having that leader assemble the group, or by the nurse making short talks at community meetings, such as church meetings and nursing conferences, and inviting the people to meet at a convenient place at a time chosen by them for the purpose of having blood specimens taken. In each of these talks several things were explained: 1. That an examination of the blood is an accurate test for syphilis; 2. That the reasons for testing apparently healthy people are that many people are infected without knowing it and that the disease might be detected in the early stages; 3. That the blood test is not an inoculation or shot and no soreness or bad effect is apt to result from having a blood test taken; 4. That a written report of the results of the examination will be made within a week or ten days to each person submitting a specimen of blood; 5. That in case malaria or syphilis is found, a report will be mailed to the family physician and the patient urged to visit him for suggested treatment; 6. That all members of a family are invited to these group meetings because malaria and syphilis are not respectors of age.

After completing such an explanation, a vote was taken to see how many wished to take the test. This check helped limit tests to fifty a day, which was the capacity of the laboratory. If the groups were too large, a separation was made and meetings for two days were planned.

Collecting specimens from groups provided the major part of the sample and the last two months were spent in house-to-house canvass in the various districts to collect specimens from particular age groups which had not already furnished their full quota. This limited the taking of many unnecessary specimens in the middle age groups which more readily turned out for the group meetings.

While such a method of selecting specimens did not provide a random sample of the population, every class of person in the county was contacted and tested. Mill foremen and heads of labor groups arranged for the collection of specimens from all employees who, in turn, arranged for the collection of specimens from their family contacts and children. Business clubs, missionary societies, business men, bankers, farm owners, ditch diggers, domestic help, tradesmen, were all included in the sample.

While it is true that some may have been dissuaded from submitting a specimen of their blood because of the knowledge that they had syphilis, the widespread interest in malaria tended to make the sample uniform and the fact that more than one per cent of the individuals included in the sample reported a history of syphilis would indicate that only to a limited degree did people shy away from the survey because of previously known infection.

TECHNIQUES

Considerable care was exercised in the handling of the groups when blood was collected from a number of people at once. Seats were provided for the assembled group and all necessary materials used were set up to be easy of access. If the groups were large the assistance of a lay helper was enlisted to get the names and addresses of the patients and make out laboratory record forms. As patients arrived, their record was made out by the assistant and they, with the record, were passed along to the nurse for the taking of the blood. Confusion was eliminated so far as possible. Small children were usually tested last as a crying child might frighten away the crowd. The technique for taking blood was worked out by the health officer, Dr. Haney, and supervised by him. The nurse was careful to advise people that it would not hurt and, by skillful handling of the needle and directing the attention of the patient to other things, kept them from too close observation of the procedures. The actual taking of the specimen was at a spot somewhat removed from the assemblage so that as much privacy as possible was attained. For each individual from whom blood was taken a special record was filled out giving name, age, sex, color, the address in sufficient detail so that the patient might be reached later by personal visit or by letter, the number in the family regardless of whether or not all members were living within the family group, and the number in the home including all persons living together as a family group, including servants but not members of the family living away from home. Inquiry was made of the patient as to the history of malaria and history of syphilis by asking a series of questions with regard to symptoms or treatment. Obviously, the specific question "Have you ever had syphilis?" was not asked. If a history of syphilis were given, information was sought concerning the source of infection, and if treated, the date and amount of treatment. The record also provided space for the recording of results of laboratory tests which for syphilis included the Wassermann test made with both a lipoid and a cholesterinized antigen and the Kline-Young flocculation test.

From each patient five cubic centimeters of blood were taken in a Keidel tube to be examined for syphilis and a thick smear was made on a glass slide from the drop on the Keidel needle for malaria examination. When the survey was first planned, it was proposed to draw the blood with a luer syringe and transmit it to the laboratory in a sterile vial. However, Keidel tubes were used in an effort to hold to a minimum the number of unsatisfactory specimens. The use of these tubes, which cost approximately eleven cents apiece for this quantity, has been fully justified by the complete absence of contaminated and unsatisfactory specimens.

FINDINGS

Blood specimens were collected from 5,786 individuals, representing 18.0 per cent of the population. Of these, 4,817 fitted into the age, sex, race group previously set up as the desirable sample of the population from each civil district and the others were individuals in excess of the expected number in certain age-sex-race brackets from which specimens were collected. Of the 5,786 specimens, 413, or 7.1 per cent were positive for syphilis (3 plus or more) by one or more tests. If we consider the survey group, that is those which fitted into the predetermined sample, we find 323 positives among the 4,817 individuals examined, or an incidence of 6.7. The slightly higher incidence in the total group, which is not significant, may be due to the predominance, as shown in Table II, of specimens from the middle age group in which the incidence is undoubtedly higher.

In discussing the results by age, sex, and color, the entire sample will be used as this gives a larger base for the calculation of incidence in certain groups. Table III shows the percentage of specimens by age, sex, and color, which on examination were positive by any one of the three tests. Of the 413 positive, 146 were positive by one test only, 98 were found positive by two tests, and 166 were positive by all three tests. Three specimens were found positive but did not have all three tests run on them. It is of interest that of the 146 found positive by one test only, 133 were thus found by the Kline-Young test, 13 specimens were found positive only when using the cholesterinized antigen, and no specimen was found positive only with the lipoid antigen.

Considering the age distribution, we find that among white males, the incidence varies from 1.2 per cent in the age group 5-14 to 1.8 per cent in the age group 45-64. The peak of incidence among the white females appears in the age group under five, but this group contained only 71 samples and this is probably due to variation in sampling. The next highest incidence is in the group 25-44, with an incidence of 2.2 per cent in a sample of 489 individuals. This peak occurs at a slightly earlier age than in the white males. It is of interest that the incidence among white males and white females, 1.4 per cent, is the same for the entire group as for the sample. The incidence among colored males rises steadily to a peak of 20.5 in the age group 45.64 with an incidence of 20 per cent or more for the entire group from 25 to 64. Among colored females the incidence varies from 2.8 to 25.1 per cent in the age group 25-44 which is the highest incidence of any of the group studied. The peak corresponds to the peak of high incidence among the white females and is appreciably higher than the incidence of colored males but falls off more rapidly with advancing years.

TABLE III

Percentage of Laboratory Examinations Found Positive, Doubtful, and Negative by Age, Sex, and Color, Pike County Mississippi, 1936

	Age Under 5	5-14	15-24	25-44	45-64	65 plus	Total
White male							
Positive	—	1.2	1.4	1.5	1.8	1.6	1.4
Doubtful	2.3	9.1	5.3	4.1	3.2	3.2	5.2
Negative	97.7	89.7	93.3	94.4	95.0	95.2	93.4
White female							
Positive	2.8	.8	1.4	2.2	.4	—	1.4
Doubtful	11.3	11.1	9.4	5.1	4.7	1.6	7.6
Negative	85.9	88.1	89.2	92.7	94.9	98.4	91.0
Colored male							
Positive	4.1	6.5	10.8	20.1	20.5	18.7	13.1
Doubtful	11.5	17.7	8.7	11.1	7.2	9.3	11.8
Negative	84.4	75.8	80.5	68.8	72.3	72.0	75.1
Colored female							
Positive	2.8	5.8	16.1	25.1	16.0	12.5	14.3
Doubtful	14.3	22.4	15.4	15.5	13.7	10.7	16.7
Negative	82.9	71.8	68.5	59.4	70.3	76.8	69.0

Such a survey throws light upon the incidence of syphilis in the total population. It is apparent from the figures in Table III that in no age group and in neither sex of the white race does the incidence rate in this county approach the 10 per cent figure which is frequently quoted. On the other hand, the incidence in both sexes of the colored group above 15 years of age is always above and as much as 2.5 times as great as this quoted rate. It is apparent that the percentage of colored population must be considered in estimating the incidence of syphilis in a particular area. Reference to Table V suggests that even in this group the availability of treatment facilities influences this percentage.

In the total number of specimens examined there were 582 recorded as doubtful or inconclusive by some test. Of this number, 560 were checked as doubtful only by the Kline-Young test and 20 classed as doubtful by one or both of the Wassermann reactions. This corresponds very closely to the sensitivity of the tests as indicated by the positives and suggests the much greater sensitivity of the Kline-Young reaction. Just what this doubtful reaction means in such a study, of course, needs further work. The age distribution of the doubtful reactions, as shown in Table III, reveals a higher percentage of doubtfuls in the early age groups, under 10 years, than at any other period.

In Table IV the incidence in Pike County is compared with the incidence in Gibson County, Tennessee. Obviously, the rates among the white group studied are essentially the same in the two areas while in the colored group in the adult years, at least, there is a markedly higher incidence found in Pike County. Just why the discovered incidence in the age group under five in both white and colored should be higher in Gibson County than in Pike County is open to speculation.

TABLE IV

Percentage of Serological Tests Found Positive In Pike County, 1936, and Gibson County, 1935, by Color and Age

Age	White Pike	White Gibson	Colored Pike	Colored Gibson
Under 5	1.3	33.3	3.4	7.9
5-14	1.0	.7	6.2	4.8
15-24	1.4	2.1	13.5	8.8
25-44	1.9	1.1	22.7	9.3
45 plus	1.1	1.8	17.6	9.3

In Table V the incidence among the colored population in Albemarle County, Virginia, Tipton County, Tennessee, and Pitt County, North Carolina, is compared with the Pike County findings. It is of interest to note that though these surveys were made at different dates, Tipton County, Tennessee, shows the highest incidence in all age groups and Pike County is next with the exception of the age group 15 to 24 years. In considering these findings, it is important to note that treatment programs had been initiated in Gibson County, Albemarle County, and Pitt County before the studies were made. At present this tendency for the incidence of disease to decrease with the development of the treatment program is only a surmise. There is needed periodic cross-section studies and careful recording of the character and extent of the treatment program to determine more accurately the influence, if any, upon incidence of disease.

TABLE V

Percentage Colored Examinations Found Positive in Five County Surveys by Age

Age	Pike, Miss. 1936	Gibson, Tenn. 1935	Albemarle, Va. 1931	Tipton, Tenn. 1930	Pitt, N. C. 1930
5-14	6.2	4.8	3.5	9.7	4.6
15-24	13.5	8.8	10.7	17.3	16.3
25-44	22.7	9.3	19.3	40.6	15.3
45 plus	17.6	9.3	11.9	23.6	10.4

In undertaking the incidence study in Pike County its value as a point of beginning for a more intensive program was recognized. In this 18 per cent sample of the population we have 413 known positive cases which are in immediate need of medical service. Those showing doubtful reactions, 582, need additional study to establish a positive or negative diagnosis. The familial contacts of all positive cases numbering 1,230 need follow-up and examination.

Applying the percentage of positives found in this sample to the entire population of the county, we may conclude that there are probably 2,200 cases of syphilis in the county, of which approximately 250 are among white persons and 1,950 among the colored group and that these cases have 6,805 contacts who should be examined.

The health department, in cooperation with the physicians in the county, has already begun the follow-up of the positives discovered in the survey and using this group as a point of beginning has met with considerable success in securing the blood specimens from familial contacts and bringing known and suspected cases under medical care. To date, 150 cases have been followed up and 455 familial contacts examined.

It is of interest that for every positive case in the survey a little better than one additional case has been found in the immediate contacts. The incidence among the familial contacts in the colored group is definitely higher than among the white as is the case rate in the entire population. There are obviously many characteristics and environmental differences in the two groups which might account for this difference in rate. So long as it exists it must be reckoned with in any treatment program set up.

SUMMARY

It is apparent from this experience and that in Gibson County, Tennessee, that certainly in areas where the incidence of syphilis and malaria is relatively high public interest in submitting blood specimens for diagnostic purposes can be stimulated with little difficulty. A representative sample of the population can be economically examined by the survey method. The medical and lay interest developed in the subject forms an excellent base for the initiation of a service program and the cases discovered provide a sound approach to handling the problem.

The findings of such a study reveal the extent of the problem in various sex and age groups and indicate a magnitude and ramifications far beyond those generally appreciated. It is obvious that any successful attack upon syphilis will depend upon a well organized and orderly program in which private physicians, the health department, and the public cooperate.

The State Department of Health offers physicians laboratory facilities for diagnosis or for checking progress of treatment. Through county health departments treatment service is or may be made available to which physicians may refer cases for diagnosis or treatment when unable to pay.

Obviously, the medical profession of the state is confronted with a tremendous opportunity for service in the recognition of the disease in its various stages. The adequate treatment of all recognized cases either personally or through reference to public clinics is the responsibility of private physicians. This responsibility for treatment includes not only rendering the patient non-infectious by the administration of a minimum amount of arsphenamine or other drug but the examination of all probable contacts, and continuing the treatment of the patient to the point of reducing the effect of those sequelae which fill our hospitals with mental and chronic cases and increase the tax burden on all of us.

DISCUSSIONS

DR. PAUL HANEY, JR., (McComb): I do not think there is much that I can add to this paper. I do want to express appreciation to Dr. Walker for making it possible for us to have the work in Pike County. It has been a means of stimulating interest to control syphilis in a manner that I feel could not be done otherwise. I think that such a survey can be conducted in any county at a relatively low cost, and I think any health officer in this state would appreciate it as I have. These illustrations showing syphilis—a familial disease—were very interesting not only in the incidents shown but in several other cases. The illustrations of the little boy who was found with syphilis was repeated in four or five other instances; not only was that true, but a large percentage of these people do not know themselves that they have syphilis, or have had any trouble at all. I will say over 50 per cent of the cases found did not know before the survey that there was anything wrong with them, and that will be true in any survey of this type. It does not mean that these persons have not had symptoms—in almost every instance they have—but they had thought those symptoms due to something else. I think it has been a worth while piece of work in our county, and again I want to express appreciation for the service.

H. C. RICKS, (Jackson): The results of this study follow closely the results obtained by me in a study of blood specimens obtained from about 2,000 white individuals who applied for work in one industry. A physical examination including a Wassermann test was required. In this group all above 16 years of age taken from 14 different communities, approximately two per cent of the group showed a positive Wassermann of one-plus or more. In our experience there was a slightly higher percentage positive in the female as compared with the male.

In the colored persons examined at the same time from the same communities the percentage positive was approximately 20 per cent one-plus or more and the results as regards sex were greater in the female than the male although only slightly so.

The lesson problem submitted to us by Dr. Walker seems to me to imply that we as medical men must become interested in this problem as a disease and not a moral issue. We must be honest with out patients and ourselves by confronting the hazards that await the contacts as well as the individuals themselves. We must insist that the disease is not a moral issue as fully 50 per cent of infected individuals are infected innocently. The patient must be told that he is infectious and will remain so for a long time unless immediate and adequate treatment is taken. The patient should be encouraged and told how he can have his family examined. If he is found to be infected he should also be promptly and adequately treated.

DR. WALKER (closing): I do not think there is much more to say about the subject. That indicates the size of the problem in one rural county in the state which can be multiplied by as many counties as there are. At least, that is the problem which confronts physicians and county health officers.

Proetz Displacement Treatment of Acute Sinusitis*

SAM B. CARUTHERS, M. D.,
GRENADA, MISS.

It has been about a decade and a half since Dr. Arthur W. Proetz reported his displacement method of putting fluid into the paranasal sinuses and there has been much in the literature concerning its use in treating chronic and subacute conditions, but I have found nothing about its use in acute sinusitis. In a recent personal communication Dr. Proetz wrote me that he never used it in acute conditions for fear of spreading infection to uninvolved sinuses and stated that he would be very much interested in hearing my results.

The accompanying tables give my experiences during the past three years in treating sixty-seven cases of acute sinusitis by the Proetz displacement method with 0.5% ephedrine hydrochloride in normal salt solution. In no instance could I tell that the treatment caused any spread of infection. The tables show that twenty-three of these cases or 34.3% were acute enough to have fever. In no instance, however, did the treatment cause any elevation of temperature, but in most cases there was a prompt fall, usually to normal.

Strictly speaking some of my cases might be classifeid as subacute and a very few might be acute exacerbations of chronic sinusitis, but all were clinically acute at the time of treatment.

Diagnosis was made in each case by history, physical examination, transillumination and the finding of definite pus in the suction bottle after treatment. X-rays were used in only a few cases when the response to therapy was not satisfactory. I may be criticized for diagnosing frontal sinusitis by transillumination since frontals are so frequently absent on one or both sides. However, all but two cases (No. 6 and No. 41) were followed up until they did transmit light showing that the original diagnosis was correct.

Technique—The nasal mucosa is shrunk as thoroughly as possible with an ephedrine spray or in certain obstinate cases by packing with neosynephrin or adrenalin. Adrenalin is not used routinely because of its paralyzing effect on ciliary activity and also because of occasional local sensitivity to it.

Preliminary light suction before the patient lies down will often help prevent considerable fright later, for he knows more about what to expect when you "get him down." It is well to assure him that the rest of the treatment will be no worse than this.

About one-half ounce of 0.5% ephedrine hydrochloride is warmed to body temperature and put within easy reach. The patient lies on his back with head hanging completely off the table and extended at least enough that the chin and ear canals are in the same vertical plane. This position assures us that most of the sinus ostia will be covered by the solution and also prevents the fluid from running directly into the throat.

With an ordinary fairly large medicine dropper one-half to one dropperful is instilled into the nostril and rapidly intermittent suction, not exceeding five pounds, is applied while the other nostril is occluded with the thumb. The vacuum created in the sinuses draws in the ephedrine solution which mixes it with and dilates the pus making it much less viscous. Usually after two or three dropperfuls have been used, the thumb can be removed from the other nostril and much of the solution is drawn into the suction bottle. In the cases with the best and most dramatic results there are usually long thick ropes of yellow pus.

It is my practice to continue instilling and drawing out the solution until no more pus returns. If much less ephedrine solution is returned than was instilled, I frequently use the suction again after the upright position is assumed in order to avoid undue systemic absorption of ephedrine with the resultant nervousness.

The treatments are repeated at 24 or 48 hour intervals until improvement is enough that astringent sprays or drops will keep the patient relieved of the pain. Most cases were also given an ephedrine spray for home use.

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*Read before the Section on Eye, Ear, Nose and Throat at the Seventy-first Annual Session of the Mississippi State Medical Association, Jackson, April 19, 1938.

I have been asked how I knew the pus was coming from the frontal or antrum or whatever sinus I claimed to be draining. My answer is that in four frontal and in many antral cases I have been able to get immediately after treatment good transillumination of a sinus which before the treatment was completely opaque.

Untoward or Unpleasant Results—The position is rather hard on the sore stiff neck which so often accompanies acute sinusitis and the dependent position of the head makes the sinus throb more than before. However, the relief occasioned by the treatment usually more than compensates the patient for the temporary discomfort.

Some patients complain of nervousness for a few hours after a treatment. This systemic response to ephedrine is rarely severe enough for real consideration. One patient (Case No. 22) had rigors after each of three treatments but nevertheless obtained good results for her sinus.

One patient (Case No. 41) was locally sensitive to ephedrine and got more swelling of the nasal mucosa after a very transient shrinking effect. He also used an ephedrine spray at home which gave him more swelling.

Temporary increase in headache was noticed in a few cases, mostly in those in which drainage was not established, but also in some of the cases with good results. This was probably due to an increase in vacuum in sinuses which were already causing a vacuum type headache.

In no case could I tell of any spread of infection to other sinuses or to the middle ear as a result of this treatment. One patient did suddenly develop an acute otitis media (which went on to mastoid operation) but it came on eight days after the last Proetz treatment, so I felt sure it was not due to the treatment.

Proetz[1] now uses ¼% ephedrine in normal salt solution and Fitzhugh[2] ⅛% neosynephrin in normal salt solution. I have tried both in just a few cases but do not believe them as effective as the original 0.5% ephedrine. I have not used them enough to pass judgment.

Results—Twenty-eight cases showed definite antral involvement on transillumination, the frontals being clear. Of these only three cases or 10.7% were not benefited. Three cases or 10.7% had only fair results. Really good results were obtained in 22 cases or 78.6% and by this I mean that there was considerable immediate and ultimate complete relief of pain and that pus was obtained with the suction.

Ten cases had definite frontal involvement as shown by transillumination but with clear antra. Half of these were not helped at all and half had good results. In these as in all the other groups where benefited, other means were reported to, usually lavage with cannula or trocar.

Six cases showed impaired transillumination of both frontals and antra. Three of these had good results, one a fair result and two no benefit. The one classified as fair is still under treatment and will soon be well enough to be in the good result class.

Nine cases with definite sinus tenderness but good transillumination were treated and all benefited. Of these, one was classified as only a fair result because there was no immediate relief. He did clear up entirely in about a week with use of an ephedrine spray.

Fourteen cases were treated which had no sinus tenderness and transilluminated normally. Of these, seven were diagnosed as pansinusitis, six as acute ethmoiditis and one as acute sphenoiditis. Two had considerable pain and four had none. These four complained only of a head cold that would not turn loose. Two of these four had good results and two had no benefit from one Proetz treatment each but were benefited by Dowling argyrol packs. Of the ten of these fourteen cases which had pain, all were benefited but two were classified as only fair results. Of the total 67 cases treated, 48 or 71.7% had excellent results, 7 cases or 10.5% had fair results, and 12 cases or 17.8% were not benefited. It is possible that if the treatment had been continued daily in the latter group, benefit might have been obtained but most of them were suffering so severely that some other form of irrigation had to be resorted to.

DISCUSSION

Dr. D. C. Montgomery (Greenville): Dr. Caruther's paper has been very interesting, and I commend it especially because of his courage in treating these acute sinus cases with this method, when most of us are accustomed to shy off and resort to only the simplest palliative methods of shrinking, vapors, rest in

TABLE NO. 1

CASES WITH DEFINITE ANTRAL INVOLVEMENT AS SHOWN BY TRANSILLUMINATION FRONTALS BEING CLOSED

Case No.	Patient	Age	Sex	No. Days' Duration		Fever	Transillum-ination	Tenderness	Number of Treatments	Results
				Cold	Pain					
1	B.B.	30	m	3	3	0	R.A.2+	R.A.	3	Good
5	O.W.S.	45	m	10	4	0	B.A.1+	BF & BA	2	Good
7	P.B.	35	m	10	10	Some	L.A.1+	L.A.	11	Fair
10	W.D.S.	50	m	18	0	0	L.A.3+	None	1	Good
11	M.S.	21	f	8	8	0	R.A.3+	R.A.	1	Good
12	T.G.S.	29	m	8	6	yes	L.A.3+	L.A.	6	Good
13	J.N.	21	m	7	0	0	L.A.3+	None	2	Good
16	J.H.J.	55	f	14	7	0	B.A.1+	B.A.	1	Good
18	J.C.H.	35	m	10	3	Some	B.A.3+	BA & BF	5	Good
22	H.B.	36	f	30	30	0	R.A.1+	R.A.	3	Good
25	C.B.	35	f	9	3	0	R.A.3+	R.A.	2	Good
26	J.C.	35	f	10	3	0	R.A.1+	R.A.	1	Good
30	B.F.	25	f	9	4	0	R.A.3+	R.A.	4	Good
32	H.G.	22	m	20	8	0	B.A.3+	B.A.	2	Fair
36	J.C.L.	36	m	14	2	100°	B.A.1+	B.A.	2	Good
37	L.L.	21	m	21	4	Some	B.A.2+	B.A.	4	Good
38	G.L.	16	m	10	5	High	L.A.3+	L.A.	5	Good
39	P.L.	30	m	28	3	none	R.A.2+	R.A.	2	Good
43	C.K Jr.	17	m	25	0	yes	L.A.3+	B.A.	7	Poor
44	C.B.	32	f	10	3	Some	L.A.2+	B.A.	3	Poor
49	K.P.	35	f	10	5	yes	L.A.3+	L.A.	2	Poor
52	C.C.H.	37	f	14	0	0	R.A.2+	O	1	Good
53	W.J.S.	40	f	12	6	Some	B.A.3+	B.A.	4	Good
54	F.S.	35	f	21	1	0	R.A.1+	R.A.	1	Good
58	A.W.	28	m	10	0	0	L.A.1+	O	1	Good
59	D.D.W.	24	f	20	7	0	R A.1+	R.A.	1	Far
60	E.M.W.	42	f	0	4	Some	L.A.3+	L.A.	3	Good
66	R.B.	26	f	7	2	0	L.A.3+	L.A.	2	Good
Av				12.8	5+				2.9	

All 28 patients were white.
11 of the 28 patients had fever, 40%.
22 of the cases showed good results or 78.6%.
3 of the cases showed fair results or 10.7%.
3 of the cases showed no improvement or 10.7%.

1+—Hazy
2+—Moderately Impaired
3+—Opaque

Key to Abbreviations:
F—Frontal
A—Antrum
E—Ethmoid
S—Sphenoid
R—Right
L—Left
B—Both

TABLE NO. II

CASES WITH DEFINITE FRONTAL INVOLVEMENT OF TRANSILLUMINATION BUT WITH CLEAR ANTRA

Case No.	Patient	Age	Race	Sex	No. Days of Duration		Fever	Trans-illumination	Tenderness	Number of Treatments	Results
					Cold	Pain					
6	J.L.H.	30	w	m	9	9	No	R.F.3+	R.F.	2	No
24	J.S.B.	10	w	f	21	7	103°	R.F.1+	R.F.	3	Good
33	W.H.C.	32	w	m	4	1	No	L.F.3+	L.F.	1	Good
41	J.M.B.	30	w	m	21	8	No	R.F.3+	R.F.	2	No
46	W.A.R.	57	w	f	7	5	No	B.F.2+	BF&BA	5	No
48	H.L.H	42	w	f	10	3	No	R.F.3+	R.F.	5	Good
63	H.C.J.	33	w	f	42	7	No	L.F.3+	L.F.	2	No
64	E.E.	25	w	m	10	5	No	L.F.3+	L.F.	1	Good
67	W.B.	23	w	m	21	3	Yes	R.F.3+	R.F.	1	No
35	G.L.	17	w	m	28	28	No	L.F.3+	L.F.	3	Good
Av.					17.3	7.6				2.5	

2 of the 10 patients had fever, or 20%.
5 of the cases showed good results or 50%.
5 of the cases were not helped of 50%.

TABLE NO. III

CASES WITH BOTH FRONTAL AND MAXILLARY INVOLVEMENT AS SHOWN BY IMPAIRED TRANSILLUMINATION

Case No.	Patient	Age	Race	Sex	No. Days Duration		Fever	Transillumination	Tenderness	Number of Treatments	Results
					Cold	Pain					
21	E.V.A.	48	w	m	5	5	No	R.F.2+ B.A.2+	R.A. & R.F.	6	Good
28	J.C.	20	w	m	28	3	100°	R.F.3+ R.A.1+	R.F. & R.A.	2	Good
47	J.C.N.	40	w	m	10	3	No	B.F.1+ B.A.1+	B.F. & B.A.	5	Good
50	F.E.	28	w	f	5	2	Yes	R.F.2+ R.A.2+	R.F. & R.A.	2	No
55	O.D.S.	36	w	m	10	6	No	L.F.3+ B.A.2+	B.F. & B.A.	1	No
65	PLMcC	34	c	f	8	7	No	R.F.3+ R.A.3+	R.F. & R.A.	2	Fair
Av.					11	4.3				3	

2 of the 6 patients had fever, or thirty-three and one-third per cent.
3 of the cases showed good results or fifty per cent.
1 patient showed fair results or sixteen and two-thirds per cent.
2 patients showed no results or thirty-three and one-third per cent.

TABLE NO. IV
CASES WITH DEFINITE SINUS TENDERNESS BUT GOOD TRANSILLUMINATION

Case No.	Patient	Age	Race	Sex	Days of Duration		Fever	Tenderness	Number of Treatments	Results
					Cold	Pain				
2	Mrs. W.T.	28	w	f	10	2	No	B.F. & B.A.	1	Good
3	T.G.H.	30	w	m	6	2	Yes	B.F. & B.A.	2	Fair
9	I.M.P.	24	w	f	14	5	Yes	L.F. & L.A.	2	Good
14	H.H.L	45	w	m	21	0	No	B.F. & B.A.	2	Good
15	S.K.	34	w	m	7	3	No	R.F.	1	Good
31	C.R.G.	34	w	m	10	2	No	B.F.	1	Good
34	L.M.	33	w	f	10	1	No	B.F. & B.A.	2	Good
40	D.V.L.	12	w	f	14	4	101°	B.F. & B.A.	1	Good
45	J.M.M.	22	w	f	14	7	Yes	R.A.	1	Good
Av					11.8	2.9			1.4	

4 of the 9 patients had fever or about 45%.
8 of the cases showed good results or 89%.
1 of the cases showed fair results of 11%.

bed, restricted diet, etc., until the acute stage has subsided.

Proetz' displacement method of treatment advocated by him several years ago and used extensively by many specialists in subacute and chronic sinusitis has its enthusiastic supporters and there are others who feel that it has little advantage over other known methods of treatment.

I think it is generally accepted that this method of treatment in acute sinusitis will certainly cause a sinus invasion if there happens to be none present, or an extension to other sinuses from the original focus. This undoubtedly has occurred to some of us when this treatment first came out. Acute suppurative otitis media is another frequent complication.

The original position as described by Proetz is inadequate as only the sphenoid and post ethmoids are sufficiently dependent. The correctness of this observation can be very readily verified if you consult a head sectioned in the longitudinal plane of the skull. It must be borne in mind that the ostia of the antrums, the anterior ethmoids and frontal sinuses are considerably in front of, and below the level of the sphenoid group. When the head is in the Proetz position these ostia lie above and in front of the usual amount of fluid instilled in the nose. Yet in the average case of acute infection it is these sinuses of the anterior group that are chiefly involved. Parkinson has called attention to a position he calls the lateral head low position wherein the head is dependent to the side at an angle of 45 degrees. All the sinuses on this side can be completely filled with fluid. This has been repeatedly demonstrated with iodized poppy seed oil.

One of the advantages of this position is that it is unnecessary that any fluid nasal contents enter the pharynx at any time. Therefore, there is less absorption and less reaction to the ephedrine solution. In my experience there has been considerable distress in the use of the ephedrine solution in 0.5 or 1% strength, very frequently requiring sodium amytal to make the patient comfortable. A few of my patients have refused a second treatment, preferring the infection to the method.

TABLE NO. V.

CASES WITH PANSINUS, ETHMOID, OR SPHENOID INVOLVEMENT, HAVING TENDERNESS AND NORMAL TRANSILLUMINATION

Case No.	Patient	Age	Race	Sex	No. Days of Duration		Fever	Individual Sinuses	Number of Treatments	Results
					Cold	Pain				
4	H.H.	7	w	m	5	5	No	all	1	Good
8	H.D.B.	35	w	f	21	0	No	all	1	Good
17	T.J.H.	28	w	m	0	2	No	L.S.	2	Good
19	R.C.G.	24	w	m	5	0	No	L.E.	1	Good
20	H.B.C.	37	w	f	14	0	Yes	all	1	No Help
23	C.B.	23	w	f	7	7	No	B.E.	2	Good
27	W.C.	27	w	m	8	2	No	all	9	Good
29	R.E.	27	w	f	7	30+	102	all	3	Good
42	O.L.	27	c	f	21	4	102	B.E.	2	Good
51	P.H.Y.	45	w	f	14	0	No	all	1	No Help
56	J.S.S.	28	w	m	7	1	No	B.E.	4	Good
57	T.F.W.	25	w	f	7	4	No	B.E.	2	Fair
61	H.V.	35	w	m	7	7	No	all	1	Good
62	M.K.	14	w	f	14	5	Yes	B.E.	1	Fair
Av.					9.8	4.7			2.2	

4 of the 14 cases had fever or about 35%
10 of the cases showed good results or 71+%.
2 of the cases showed fair results or 14+%.
2 of the cases were not helped or 14+%.

While congratulating Dr. Caruthers on his very excellent results, I am still inclined to feel that it is safer to confine this treatment to the subacute and chronic forms of sinusitis. Even in these cases I rather feel that good results are obtained only in those cases with unusually large normal ostea.

Dr. Edley H. Jones (Vicksburg): I want to commend Dr. Caruthers on his choice of a subject. He has chosen a clinical problem which concerns us all.

For many years we have used the Proetz method of treatment but never in acute cases. Perhaps Dr. Caruthers and I have a different conception of acute cases. This paper reminds us that our terminology could be improved and more clearly defined. If we consider as acute only those cases which have a sudden onset with pain and fever, marked congestion and edema of the nose, the patient being toxic and disabled, then I would not care to use this treatment, However, if we consider as acute cases those which have a purulent discharge with little if any fever, or perhaps a large amount of pus which is draining fairly well, then I would unhesitantly use this method. I think perhaps this is the essayist's conception for I note he states that those cases which respond better to treatment are those in which ropy pus was removed. It is my understanding of pathology that thick, ropy pus is not found in acute cases, but in sub-acute cases.

In presenting this subject the essayist has noted the use of this method in treating the frontal and maxillary sinuses as well as the ethmoid and sphenoid. It is my impression that the Proetz method is used only for the treatment of the posterior sinuses and it was Sewall who first described the positions used in treating the anterior group of sinuses. We frequently use the Proetz method in treating the posterior sinuses but I can recall only two cases in which we treated a frontal sinus and one in which we treated an antrum by such methods. It would appear to me that it would be of limited value in the anterior group.

Another point of which I differ with the essayist is in the amount of ephedrine used. I note he states that he uses as much as one ounce of 0.5% ephedrine. Of course, all of this solution is not retained, but we must remember that one ounce of 0.5% solution would contain two and a quarter grains of the drug. It is my experience that only a few patients can tolerate three-eighths of a grain of ephedrine without the addition of amytal. I would think that if one used this large quantity, the patient would be very apt to have definite symptoms of palpitation, nervousness, etc. We use only two drams of 0.5% solution, using normal saline if more solution is required.

The essayist has been using a suction apparatus. We have found it more convenient to use a B. B. syringe, manufactured especially for this purpose and marketed by Mueller. The force of suction is thereby limited by the elasticity of the rubber bulb and there is no danger of using too much suction force. If one does use machine suction, I would heartily concur with the essayist that the vacuum gauge should be set not to exceed 5 mm. of mercury.

While I again wish to commend the essayist on presenting this practical subject, I would hesitate to use this method in any acute cases (following my definition of "acute"), until more impressive proof is offered.

Dr. Charles H. Mayo

JOHN C. HENTHORNE, M.D.
JACKSON, MISS.

On May the twenty-sixth, the medical profession of the world was bereaved of one of the most beloved of its outstanding men by the death of Charles Horace Mayo. On such an occasion, many of us who have enjoyed, directly or indirectly benefits derived from the magnanimity of this great man wish to pay tribute to his memory. Dr. Mayo's obituaries will be many and distinguished and in many languages, but it is as fitting that a tribute should appear in the MISSISSIPPI DOCTOR as anywhere, because so many physicians throughout Mississippi have known "Dr. Charlie" personally and have visited the Mayo Clinic during his prime as a surgeon. Others have known him during his later years of service as surgical consultant, and all of us are more capable in our professional fields because Dr. Charlie has practiced, taugh and explored in the field of medicine.

It is difficult to pay tribute to one of the Mayo brothers alone, because it is probable that Dr. Charlie's original M.D. degree is the only honor that he has not shared with his brother, Dr. William James Mayo, in the long and distinguished careers of the two men. In all of their public utterances and frequently in their scientific papers one referred to the name or opinion of the other.

The third volume of "Physicians of The Mayo Clinic and the Mayo Foundation" lists the fabulous number of honors and degrees conferred upon Charles H. Mayo, and one need only to visit the board of governors' room at the Mayo Clinic to be astounded by the display of certificates, medals, and other forms of honor conferred upon him and his brother, "Dr. Will," by great institutions of this and other countries. Dr. Charlie has served as president of medical societies of which he has been an active member, including the American Medical Association, and has always filled these high offices with honor and to the credit and enduring benefit of the societies and the profession. He has had conferred upon him honorary membership in distinguished medical societies abroad, and has received high ranking honors from the governments of Italy and France. These degrees and honors are more significant than the usual "kudos" bestowed upon great men. They seem rather to be a form of thanks that a grateful world has clamored to express, because Dr. Charlie's services have been requested so often and have been granted with such far reaching results. An example of such activity was Dr. Charlie's service alternating with Dr. Will's as colonel and chief consultant for all surgical services in the United States Army during the World War.

Dr. Charlie was born July 19, 1865, at Rochester, Minnesota. His father, Dr. William Worrall Mayo, had been practicing there since 1862, and had located there because the convenience of the railroad in moving troops facilitated his service on the military draft board. During that year Dr. W. W. Mayo also acted as surgeon for the relief forces at New Ulm during the uprising of Sioux Indians. Rochester since then has been the home of the Mayos. Dr. Charlie grew up with the knowledge that he and his brother would study medicine and practice with their father. Dr. Charlie frequently made calls with his father, and always had an interesting stock of anecdotes to relate about those early days. It is said that Dr. Charlie stood upon a soap box when he was a boy to assist his father at operations. Another interesting adjunct to Dr. Charlie's early medical education was the skeleton which his father had obtained from the body of an Indian chief, hanged by order of President Lincoln after the Massacre at New Ulm. How well this skeleton helped Dr. Charlie in his studies on osteology we do not know, but at least we know that his youth was spent in the company of a father who was a surgeon of considerable distinction throughout the Northwest, and a brother who was destined to a parallel career. It is also said that Dr. W. W. Mayo had a remarkably good library of medical books, and anatomic atlases.

Dr. Charlie received the degree of M.D. from Northwestern University in 1888 and from the New York Polyclinic in 1889. In 1890 he published his first scientific paper, "Glandular Tuberculosis," in the Northwestern Lancet, 10:261-262; also published in the Transactions of the Minnesota State Medical Society, 22:38-40, 1890. Between that time and 1937, Dr. Charlie published four hundred and thirteen articles on a wide variety of subjects. For instance, as early as 1893-95 he published five articles on surgery of the brain, in 1896 there was an article on "Foreign Bodies in the Trachea, and Esophagus," in 1900 an article on "The Artificial Vitreous," in 1903 an article on "The Surgical Physiology of the Lymphatic System." There were other articles in this period on other surgical subjects but those mentioned give some idea of the unusual variety of Dr. Charlie's interests.

It was typical of Dr. Mayo that he should practice surgery and yet maintain a remarkable interest in the basic sciences; for example, as late as 1926 he published a paper on "The Energy of Light." He was always greatly interested in chemistry and followed research work very closely. He frequently visited the bacteriology laboratory of Dr. Rosenow, and during the visit of President Roosevelt to Rochester in 1934, Dr. Charlie threw the secret service men into bewilderment by altering the president's route so that he could see the Institute of Experimental Medicine of the Mayo Foundation.

As a surgeon, Dr. Charlie's interests are well known to be just as varied. In the early days of his practice, he is said to have done tooth extractions, and cataract operations, but it was in keeping with the character of the Mayo brothers that special procedures were relegated to specialists as soon as the services of such men were obtainable. It was with some difficulty, however, that Minnesota farmers could be referred to someone other than Dr. Charlie. Dr. Charlie gladly gave the responsibility for brain surgery at the Mayo Clinic to Dr. Adson when the latter convinced him that he was capable of doing further pioneering in that special field. Dr. Charlie did excellent orthopedic work, and devised the operation for bunions now used by the orthopedic department of the Mayo Clinic. He had great interest in goitre surgery, and he has done large numbers of thyroid operations before and after the use of Lugol's solution in preoperative care. Before the use of Lugol's solution, thyroid surgery even in the hands of very skillful surgeons carried a fearful risk, but Dr. Charlie was able to do goitre surgery with sufficient skill to reduce that risk to reasonable proportions.

Little comment is required concerning Dr. Charlie's technical skill as a surgeon. Some of us have never had the opportunity to see the great man operate, but many other doctors now in Mississippi have watched his smooth surgery. Not the least of his accomplishments was his resourcefulness in adapting special operative procedures to fit the needs of the individual patient. Even at the present time patients who have had surgical resections of cancers by Dr. Charlie a decade or more ago can be traced and found to be living.

Dr. Charlie's ability was by no means limited to technical skill; stories are still circulating about his diagnostic acumen and his amazing store of information on a wide variety of medical subjects. It is said that he was never too busy to listen with sympathetic interest to the problems of visiting physicians, and he was able to offer helpful suggestions on subjects as widely divergent from surgery as that of infant feeding.

In his extra-professional life Dr. Charlie was greatly interested in farming and wild life. His home is established on a beautiful wooded hillside overlooking a lake which formed after a creek was dammed near the entrance to the estate. Surrounding this house are the homes of his children and several of his farms. On the grounds of the estate there are elk, deer, and a favorite species of small Japanese deer. Small game also abounds in this area and is protected. On the lake, there are wild Canada geese that find the location a pleasant place to spend the entire year and add to the numbers of their flock. Yearly they decoy in a great flock of migrating geese that find the lake a safe resting place on their northerly or southerly flights.

Dr. Charlie's earthiness was not confined to his love of farms and wild life. He has been known to thrill to the exercise of manual labor. It is reputed that he personally dug the pit for the first elevator shaft in the original part of St. Mary's Hospital. This elevator is still in use. He was also practical in that he saved all useful looking things that might otherwise be discarded. For instance, some years ago there was a flour mill in Rochester in which Dr. Charlie was interested. During a prosperous season, new mill machinery was installed to replace the old, but after a time, the mill was forced to suspend operations because of a broken part which could not be replaced for days or weeks. After a few anxious hours the old machinery was found in Dr. Charlie's barn, and operations of the mill could be resumed until the defective parts were replaced. Those who visit Rochester can see on either side of the driveway to the home of the late Dr. Joseph Graham Mayo, Dr. Charlie's younger son, two ornamental gargoyles left over after the new clinic was built. Dr. Charlie found a good place to use them and didn't want to see them discarded.

In the latter years of his life Dr. Charlie had retired from active duty as a surgeon, but served a very useful function as surgical consultant. Those of us who were not privileged to know Dr. Charlie during his prime have often met him making rounds of the hospital operating rooms, the rooms of interesting patients or those who were old friends returned. He also consulted in the diagnostic clinic building.

No tribute to Dr. Charlie would be complete without reference to his sense of humor, and flare for repartee and anecdotes. On one occasion Dr. Joe Mayo related a funny story to his father and later in the day learned that Dr. Charlie had preceded him all over the clinic with it. On another occasion, during the deepest part of the depression, the fellows of the Foundation began to worry about their future when their fellowship would draw to a close and they would be forced out into a world which was very cold indeed. It is likely that the authorities of the Foundation could sense the melancholy thoughts of their young confréres because it was shortly announced that Dr. Charlie wished to speak to the fellows. The young men entered the assembly room with the look of doomed men on their faces and emerged with the smiles of youth returned. Dr. Charlie had entertained them with folksy tales about his youth and early childhood. It is possible that Dr. Charlie has gone to the halls of the immortals with-

(Continued on page 57

The Mississippi Doctor

The journal with a vision which encourages a plan of delivering modern medicine to the masses at less cost to the individual and more profit to the practitioner. It champions the community hospital, the hub around which this service must be built.

W. H. ANDERSON, M.D., Editor-in-Chief
MILDRED P. ANDERSON, Assistant Editor

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Mid-South Postgraduate Medical Assembly

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Entered as second-class matter, January 19, 1926, at the post-office at Booneville, Miss., under the Act of March 3, 1870.

Dr. Lawrence W. Long is the new state editor. Dr. Long is a wide-awake young surgeon of Jackson, who has aided largely in the recent rapid development of the Central Medical Society. He is a member of the council. Last year, on the death of Dr. R. M. Adams of Ripley, he became president of the Mid-South Postgraduate Medical Assembly. He was one of the best presiding officers that the assembly has ever had, and while president did a very constructive piece of work in organizing the Past-Presidents Club which promises to become a major aid in the growth of this great medical assembly. We feel sure Dr. Long will prove to be a splendid editor. Dr. Stanley Hill is the newly elected associate editor. He is well educated and very active in the profession. Dr. Leslie V. Rush of Meridian is the other able and highly efficient associate editor. These three constitute the editorial board.

All of our medical organizations up to the American Medical Association do their part in promoting scientific medicne. To them we look for standards of ethics, of medical education and information on medical economics. For pure medical information and strictly professional edification the Southern and the Mid-South are unexcelled. Both of these great associations will hold their annual sessions in the Mid-South's most friendly and rapidly growing large city, Memphis. The first meeting is in November and the other next February.

Dr. James B. Herrick of Chicago was voted the Distinguished Service Medal of the American Medical Association at the recent meeting in St. Louis. He is seventy-seven years of age. Dr. Herrick has done much work on the heart, having discovered the disease known as coronary thrombosis. Dr. Rudolph Matas of New Orleans was the first to receive this medal.

Dr. H. H. Shoulders of Nashville is speaker of the House of Delegates of the American Medical Association and he does the job in fine style, making his decisions promptly and fairly. Dr. Olin West, secretary-manager of the American Medical Association is also a former Tennesseean.

Dr. J. P. Culpepper of Hattiesburg is a brand new member on the Council of the Mississippi State Medical Association. This honor, we are sure, is worthily and well bestowed.

Dr. Rock Sylvester of Wauwatosa, Wisconsin, is now president of the A. M. A., Dr. Nathan B. Van Etten of New York was elected president-elect, and Dr. Alphonse McMahon of St. Louis, president of the St. Louis Medical Society, is vice-president. The next three meetings of the A. M. A. will be held in New York City, Cleveland, and Atlantic City.

Dr. Alphonse McMahon of St. Louis gave a luncheon at the Jefferson Hotel on Thursday during the A. M. A. in honor of Dr. Walter Vest, president of the Southern Medical Association. Members of the Council, past-presidents, and many others especially interested in the Southern Medical Assocaition, numbering one hundred in all, attended. Dr. W. L. Williamson of Memphis, general chairman for the November meeting of the Southern, and Dr. Frances, president of the Shelby County Society, were special guests. They extended cordial invitations to one and all to attend the meeting in Memphis in November.

Dr. Charles H. Mayo of Rochester, Minnesota, is no more. He died at Mercy Hospital in Chicago on the afternoon of May 26 of pneumonia, type three, at the age of seventy-three. Dr. Will Mayo, his older brother, underwent a serious operation recently. He is 77 years of age. The great Mayo Clinic developed out of the practice of their father, Dr. William Worrall Mayo, who lived to be ninety years of age. The idea that developed this great clinic, the medical mecca of the world, came in a tornado in 1883. Many were killed and wounded and the "old doctor's" home was used as a hospital to treat the injured. He was assisted by his son, Will, who was just out of college, Charlie, who was still in his teens, and four sisters from the neighboring convent. The mother superior of the convent told Dr. Mayo the next day that she had had a vision of a great hospital in their little town. He hesitated about the undertaking, but she assured him that his sons, Will and Charlie, would carry on; whereupon the old doctor donated twenty acres of land to the sisters on which to build the hospital. The sons did carry on and all the world knows about this little town of fifteen-hundred population. The Mayos have been masters in the development and the application of ideas. They have demonstrated the power of teamwork and have shown how vision may lead to life abundant. Acres of diamonds of human health they found on the streets of a little country town. These health diamonds are in every little town even yet if the practitioner has the vision to see and the practical application to achieve. The teamwork of the Mayo Clinic brought people from the four corners of the earth, as many as a quarter of a million per year. It is to the earnest cooperative work of the medical world to which human civilization is now issuing the challenge. Health more abundant, mental and physical, economical security, and rest from the turmoils of war and war phobia place their greatest hope in the medical profession. Even the Divine Word has its greatest security in the field of science. Let the Mayo inspiration help to carry us forward.

The estimation of only forty thousand people needing medical care in the United States does not seem compatible with the facts. The person on relief certainly cannot pay much for medical care, not in Mississippi. It seems that New York receives two and one-half times as much in proportion to population as does Mississippi, and Illinois receives twice as much. This may give these states a little better opportunity to pay for medical care.

Dr. Elizabeth Bass is chairman of the Section on Pathology of the Southern Medical Association. This is a distinct honor fully merited. Dr. Bass is a native of Mississippi, a sister to Dean C. C. Bass and as an instructor in Tulane, has no superior.

It is very encouraging to see the progress of our hospital system in Mississippi. Let us continue to press forward to the completion of a system that will serve both the profession and the people.

The Northeast Mississippi Thirteen-County Medical Society will hold its quarterly session at Houlka, June 13, the second Tuesday. Drs. Tom Blake of Jackson, Miss., and C. E. Ward of Memphis will be guest speakers, Dr. Blake speaking on Colles's fracture and Dr. Ward on obstetrics. The special interest of this meeting will be a tribute paid to Dr. W. C. Walker on his eightieth birthday. Governor and Mrs. White are expected to be there. It will be a great day for Dr. Walker and the society also. The love and respect of the society will manifest itself for him on this occasion. It will be sincere and genuine and merited in every respect. Dr. Walker loves the science and the practice of medicine and with a still greater devotion stimulated and guided by the Divine spark that abides in his heart, he loves the people. The time will never come when the world cannot be benefited practitioners like Dr. Walker. This meeting will be an inspiration and a benefit to the society. The atmosphere will be charged with the Walker spirit, seasoning scientific information with love and human interest. This journal is wishing for Dr. Walker a very happy birthday and hoping for him at least twenty more for our good more than his.

The American Medical Association has made a study of motor vehicle accidents through its committee. Visual and hearing defects and feeblemindedness and small stature are mentioned as major factors, while weakness after sickness, arthritis, coma, mental troubles and worries also play a part. But it seems, according to the report of the committee, that self-inflicted disabilities are the most important, such as intoxication, the effect of drugs, lack of sleep, etc. The committee concludes that there is no minimal figure at which there will be no effect from alcohol. It recommends that prosecutions be made after the blood has reached 0.05 per cent by weight or its equivalent in the urine. If the blood concentration is as much as 0.15 per cent, the committee concludes that the chances of accidents of a person so intoxicated will be fifty-five times greater than the person with no alcohol. The American Medical Association is to be commended for this fine piece of work. It is to be hoped that this study will continue. The alcohol problem is a challenge to the medical profession. There is no limit to the service this association may render in this field of service. This subject involves the cornerstone of our social and economic fabric. It constitutes a major problem in preventive surgery which is the order of the new era in medicine. Doctor Rudolph Matas, the dean of the medical world, observes that surgery has reached its peak, and that medical science will continue its victorious march until traumatic surgery will finally be about all that is left. By abstaining from alcohol we can cut traumatic surgery into half now. The machine age in which we live and the consumption beverage is just as much out of date as an oxcart for travel. Again we commend the American Medical Association for its study of motor vehicle accidents.

TO THE MISSISSIPPI STATE MEDICAL ASSOCIATION

I know of no better way to reach my friends of the medical profession than through the pages of the Mississippi Doctor, so I am taking this means of expressing to the officers and members of the Mississippi State Medical Association, my deep appreciation of the honor tney conferred on me in the presentation of a beautiful silver cup at the 1939 annual meeting in my home community on the Mississippi Gulf Coast.

As some of you know, the inscription on the cup reads:

PRESENTED TO
DANIEL J. WILLIAMS
FOR
OUTSTANDING SERVICE RENDERED
ORGANIZED MEDICINE SINCE 1891,
MISSISSIPPI STATE MEDICAL ASS'N.
MAY, 9, 1939

The recognition of my efforts by this organization is the height of any honor that could possibly come to me, and I hereby tender you my heartfelt thanks. The beautiful cup, as a tangible evidence of your appreciation, will ever be a decorative and revered token of esteem from the group I hold nearest my heart. It will be an inspiration to give the best that is in me to my work during the years that remain to me.

Yours gratefully and sincerely,
Daniel J. Williams, M.D., Gulfport.

MARCUS BEEKMAN CALLED BY DEATH

Dr. Marcus Beekman, born in New York City on July 21, 1884, died in New Orleans, La., on April 23, 1939, where he had been at Touro Infirmary for the past three weeks for medical attention. His death brings heartfelt sorrow to everyone who knew him. Dr. Beekman was a graduate of the Pratt Institute in Brooklyn, N. Y., in 1906 in electrical engineering. He later entered Tulane Medical School and graduated in 1911. He then served two years' interneship at the Natchez Charity Hospital in 1911 and 1912.

He was a member of the American Medical Association and Radiological Society of the late beloved Dr. Phillip Beekman.

He began the active practice of medicine in Natchez in 1912 and continued there in active practice until a few years ago, when, on account of his health, he retired. Until his retirement, he was associated with his uncle, North America, the Adams County Medical Society and Homochitto Valley Medical Society.

CENTRAL MEDICAL SOCIETY

The Staff of the Louisiana State University Medical Center will be guests on program at the regular meeting of the Central Medical Society, June 6, Jackson, Mississippi, at the Robert E. Lee Hotel. The following program carries a cordial invitation to doctors over the state to attend this fine meeting.

TENTATIVE PROGRAM

TUESDAY, JUNE 6, 1939

AFTERNOON SESSION: 2:00 to 5:00 p. m.

1. Lymphogranuloma Inguinale, a Problem for the South. (Motion Pictures).—Dr. Rigney D'Aunoy, Professor of Pathology.
2. Facts About Fractures. (Motion Pictures).—Dr. H. Theodore Simon, Professor of Orthopedics and Fracture Surgery.
3. Common Skin Diseases and Their Treatment.—Dr. James W. Tedder, Ass't Professor of Dermatology and Syphilology.
4. Therapy of the Diarrheas in Early Life.—Dr. E. A. Socola, Clinical Professor of Pediatrics.
5. Remediable Factors in Heart Disease.—Dr. Edgar Hull, Ass't Professor of Medicine.
6. The Consideration of Hematuria with Special Reference to the Painless Type.—Dr. Hugh T. Beacham, Ass't Professor of Urology.

DINNER: 6:30 p. m.

NIGHT SESSION: 7:30 to 10:00 p. m.

7. The Treatment of Dysfunctional Disorders of Menstruation. (Lantern Slides).—Dr. Peter Graffagnino, Professor of Obstetrics and Gynecology.
8. Bleeding in the Last Trimester of Pregnancy.—Dr. R. E. Arnell, Senior Ass't Professor of Obstetrics and Gynecology.
9. Modern Concepts of Intestinal Obstruction.—Dr. Urban Maes, Professor of Surgery.

NORTHEAST MISSISSIPPI THIRTEEN COUNTIES MEDICAL SOCIETY

TUESDAY, JUNE, 13, 1939

Houlka, Miss.

PROGRAM

Meeting called to order by the president, Dr. J. W. Lipscomb.

Invocation by Rev. S. P. Andrews, pastor of the First Baptist Church, Houlka.

Address of Welcome: Miss Lillie Frances Hood, Houlka.

Response: Dr. J. M. Acker, Aberdeen.

Reading and adoption of minutes of last meeting.

Diagnosis of Dysepsias—Dr. J. D. Dyer, Houston.

Common Sense and Obstetrics—Dr. C. E. Warde, Memphis.

Early Treatment of Eye Injuries—Dr. G. G. Armstrong, Houston.

Intracranial Injuries—Dr. J. T. Doster, Columbus.

Colles's Fractures—Dr. T. H. Blake, Jackson, Miss.

An outdoor banquet, arranged old-fashioned picnic style, will be prepared in the famous Houlka Grove in honor of the occasion. Dr. W. C. Walker and Dr. Hood will be hosts, although special honors will go to Dr. Walker because he will be eighty years young.

CHARLES H. MAYO

(Continued from page 53)

out any conception of how much he accomplished for those boys, but it is to be hoped that one among them has given him some idea of how their attitude changed from one of despair to the normal optimism of the young.

On the other hand it is perhaps fitting if Dr. Charlie has accomplished this result like he had done so many other good deeds which have had effects for the general good of mankind, inestimable in scope, without realization in his own mind the value of his work. Dr. Charlie never did seem so impressed with himself as he was with the accomplishments of others, for he was a practicing exponent of democracy. His interest in the advancement of medical science was such that it greatly inspired the imagination and resourcefulness of research workers in both clinical and laboratory fields.

Our sense of loss at the death of Dr. Charlie is little mitigated by the realization that the Mayo brothers have long since placed their scalpels in the hands of competent younger men, among whom is Dr. Charlie's son, Dr. Charles W. Mayo; we have lost a great inspirational character from the field of medicine. May his memory be blessed.

Woman's Auxiliary
TO THE MISSISSIPPI STATE MEDICAL ASS'N

President	Mrs. Hugh Johnston Vicksburg
President-elect	Mrs. E. C. Parker Gulfport
First Vice President	Mrs. John B. Howell Canton
Second Vice President	Mrs. W. H. Cleveland Tupelo
Third Vice President	Mrs. W. H. Anderson Booneville
Fourth Vice President	Mrs. H. E. Frizell Vaughan
Recording Secretary	Mrs. W. K. Stowers Natchez
Treasurer	Mrs. J. D. Simmons Cleveland
Parliamentarian	Mrs. V. B. Philpot Houston
Historian	Mrs. Harvey F. Garrison Jackson

The new president, Mrs. Hugh Johnston of Vicksburg will have a message for the next issue. The list of officers will also be complete, including the councilors and committee chairmen. Auxiliaries are urged to see that reports of their meetings are sent to Mrs. W. H. Anderson, Booneville, as promptly as they are given to local newspapers. The doings of each auxiliary will be of interest to the others, as well as a necessity for this department.

MRS. E. C. PARKER PRESIDENT-ELECT

Mrs. E. C. Parker of Gulfport, one of the most valued and constant workers in both her local and the state auxiliary, was unanimously elected president-elect. Her worth as secretary was so well established during the years she served in this office, no one could doubt her ability to grace the presidency with efficiency. She possesses poise, is a charming hostess, and has definite ideas of accomplishment for the doctor's wife.

AT GULFPORT

Climaxing a significant year of achievement,

(Continued on page 67)

Officers of the Woman's Auxiliary to the Mississippi State Medical Association as they assembled on the grounds of the Edgewater Gulf Hotel, following the annual luncheon. Reading from left to right, front row: Mrs. V. B. Philpot, Houston; Mrs. E. C. Parker, president-elect, Gulfport; Mrs. John B Howell, Canton, retiring president; Mrs. C. C. Hightower, Mrs. Henry Boswell, Sanatorium; Mrs. Dan J. Williams, holding the cake presented her in honor of the sixteenth birthday of the Auxiliary which she organized; Mrs. Sydney Johnston, Vicksburg; Mrs. Harvey F. Garrison, Jackson; Mrs. Leon Lippincott, Vicksburg. Second row, left to right: Mrs. W. H. Anderson, Booneville; Mrs. J. Percy Wall, Jackson; Mrs. W. H. Cleveland, Tupelo; Mrs. W. K. Stowers, Natchez; Mrs. S. E. Bethea, Hattiesburg; Mrs. H. E. Frizell, Vaughan; Mrs. Hugh Johnston, president, Vicksburg; Mrs. H. C. Ricks, Jackson; Mrs. J. C. Simmons, Cleveland; Mrs. W. C. Pool, Cary; Mrs. L. H. Clark, Vicksburg.

-:- Mississippi State Medical Association -:-

Lawrence W. Long, M.D., Editor L. V. Rush, M.D. and S. A. Hill, M.D., Associate Editors
Manuscripts and material for publication should be addressed to the editor, Suite 412 Standard Life Bldg., Jackson, Mississippi.

EDITORIAL POLICY

The editorial policy of the Mississippi State Medical Association will not be radically changed from that previously carried out in the past. The policy will be open and there will be no controlled press. The editor will be very glad to receive any of your ideas and reactions in regard to what is being and should be published.

It is believed that the Hospital Association should devote a section to its activities if it could be obtained from the Mississippi Doctor to include all of its publications, and hereafter transactions of the staffs of the various hospitals of the state will not be published in the Journal of the Mississippi State Medical Association because it is deemed advisable to separate completely hospital staff meetings and medical meetings. Brief reports will be continued from the State Board of Health because this organization is technically the head of the health of the state and is the licensing board for all of us who are practicing in this state. Brief abstracts will be continued in the various branches of medicine.

Policies will be discussed as relating to the State Medical Association, and not individuals, and no politics, if any, of this Association, or any other society or government, will be discussed.

The county editors will continue to send in their information until further notice. This section of the Mississippi Doctor will not devote itself to the many details and personal publicity of those residing in the various counties. The editor does not feel that this journal should take the place of a county newspaper, and that much personal news has been printed in the past of interest only to those written about. Personal publicity will be given space only as it affects the Mississippi State Medical Association. County journals and the local newspapers should carry events otherwise. Scientific papers and matters of interest to the State Medical Association generally, especially the practical side of medicine, both economically, socially, and medically will be taken up by this journal.

It is requested that if any member of the State Medical Association is not receiving this journal that he write the editor and the reason why will be found out and corrected as soon as possible. The Mississippi State Medical Association Journal will be as good as you and I can make it and it is necessary that your editor have your whole-hearted co-operation. The editor's office is open at all times for suggestions from each of you and it is requested that your views be sent in where careful consideration will be given them by the Editorial Board.

Suite 412 Standard Life Bldg.
Jackson, Mississippi

THE GULFPORT MEETING

The annual session of the Mississippi State Medical Association at Gulfport was considered by many to be one of the outstanding meetings in the history of the Association. It was of interest to all to see the smooth sailing of the House of Delegates under its speaker, Dr. J. Rice Williams, who is the second speaker that this body has ever had, and certainly a fast pace was set for him by the first, Dr. J. P. Wall.

The Gulfport and Coast doctors are to be complimented on their splendid management and arrangement, with the vast amount of trouble that they and their wives went to for such wonderful entertainment which was enjoyed by all those who attended.

Certainly it seems that the meetings each year are becoming more business-like and handled in a much superior manner than those first visited by your editor ten years ago.

In recognition of his years of service, the presentation of a silver cup to Dr. Dan J. Williams was one of the hightlights of the meeting.

It was of great interest to note that the able president, Joe E. Green, was so active in his visitations during the year to the various societies that he lost the gavel which could not be transferred at that time.

All sections were very well attended and spirited interest, as evidenced by the discussions in each section, was very much noted by all. An unusually fine array of talent was displayed in each section.

The spirited expression of those interested in the House of Delegates, and the lively voting in the many close races which were run showed that the nominating committee had done its work well. It is urged that all members of the State Association attend the House of Delegates meetings with regularity, whether a voting member or not, because of the large amount of policies and material that come before this body which affect each doctor's daily life. It is only by the interest of the medical profession that this governing body can remain a democratic organization.

THE NEW PRESIDENT

Dr. James Percy Wall was born in Magnolia, Mississippi, June 25, 1878. He received his M.D. degree from Columbia University College of Physicians and Surgeons in 1907. Besides an overseas career with the Medical Corps of the U. S. Army, 1918-1919, Dr. Wall has spent most of his time in active practice in Jackson, Mississippi. He is attending surgeon, Mississippi State Charity Hospital and Baptist Hospital, Jackson, and consulting surgeon, Mississippi State Tuberculosis Sanatorium. His memberships include the Central Medical Society, Mississippi State Medical Association and American Medical Association (F.A.C.S.). He was the first speaker of the House of Delegates of the Mississippi State Medical Association, which position he held for six years. He is sound in his thinking and ideals, a thorough student of literature as well as medicine, earnest and considerate, and a ready and fluent speaker.

TO THE MEMBERS OF THE MISSISSIPPI STATE MEDICAL ASSOCIATION

It is with a mingled feeling that I address you at this time—heartfelt gratitude for the continued expression of confidence you have shown in me and a sense of the great responsibility such a trust imposes.

During the past year, as your president-elect, I have traveled in Mississippi 3,916 miles attending medical meetings, renewing acquaintances and making new friends. While such a tour of duty has been rather arduous, exacting in time and effort, it has been worth while, repaying for all that I have put into it, for it has left a lasting impression that the doctors of Mississippi are as fine a group of people as can be found anywhere, and that the good doctors are not confined to any one section of the state.

With the perniciousness of Federal Paternalism that is threatening to overturn the established medical procedure as we now know it, medicine faces a real menace, and at such a time the greatest danger is apathy, lack of personal responsibility and the ability to look courageously at a problem, the proper solution of which may determine the very existence of Organized Medicine.

The leadership of the American Medical Association is capable and can be trusted, and among the doctors of Mississippi there are those whose wisdom is sufficient to solve the problems peculiar to our midst and whose courage no one will question.

For many years the Mississippi State Medical Association has been endeavoring, and with some degree of success, to have enacted by our State Legislature certain laws that would mean the betterment of the medical procedures in our state and make for the increasing of the service rendered our indigent sick.

At the recent meeting of the Mississippi State Medical Association, the House of Delegates passed several resolutions, which, if they can be carried out, will redown to the very things we have been struggling for now these many years.

The agenda agreed upon by the House of Delegates are as follows:

1. Endorsement of the law enacted by the Mississippi State Legislature in its extraordinary session in 1938 relative to the modification of the Mortmain Section of the State Constitution, such modification to be voted upon on November 7, of this year.
2. Realizing the deplorable condition of the State Charity Hospitals—inadequate support fund, insufficient equipment and the making of them the football of politics, the House of Delegates passed a resolution requesting the Governor to ask the incoming legislature to make appropriations that will enable these institutions to serve in the way they should the patients who are forced to come to them for care.
3. Inasmuch as the selection of the members of the Mississippi State Board of Health has removed that most excellent organization from the baneful influence of factional politics, the House of Delegates did request the Governor of the state to recommend to the Legislature the enactment of a law that would put the selecting of superintendents of these various hospitals from a list of three for each hospital, such list to be nominated by the House of Delegates of the Mississippi State Medical Association.
4. There has been a great need for a clearing house of the charity hospitals of Mississippi, so that the beds in the smaller hospitals could be used for acute cases, and these smaller hospitals could transfer cases to a centrally located hospital that would furnish treatment the smaller institutions could not render because of lack of equipment, such cases being for crippled children, cancer and other chronic cases. With this idea in mind the Governor of the state was requested to recommend legislation that would enable the state to build a large hospital, centrally located, this hospital affiliating with the Mississippi State Hospital at Whitfield, and the State Sanatorium at Sanatorium. Internships could be offered that would make our young doctors what they and we desire as to capability and at the same time probably keep them in the state where they belong.
5. The habit-forming properties of the barbituric acid preparations being generally recognized, the House of Delegates also requested that a law be enacted putting the prescribing of this drug and its compounds under laws similar to the prescribing and dispensing of opium.
6. There has been considerable unenviable notoriety given our state by published statistics purporting to the effect that 15.5% of our people died in 1937 without doctors attending them in their last illness. Such statistics are no reflection upon the Bureau of Vital Statistics of the Mississippi State Board of Health, as this bureau tabulates only the information submitted to them by the various registrars, yet the fact remains that these figures are not a correct estimate of the facts under question.
7. Request that the Governor recommend to the Legislature a continuance of the Community Hospitalization plan whereby the indigent sick can be cared for in hospitals in their immediate vicinity.

The Director of Vital Statistics of the Mississippi State Board of Health has furnished us with copies of the death reports for January, February and March, 1938, and the Woman's Auxiliary of the Mississippi State Medical Association has agreed to check on these findings, and in this way find out where the error in such reporting lies.

With these objectives before us, may your president have your help in and out of season in order to hasten their accomplishment. We can succeed in these ambitions if the profession will help.

While it ill becomes me to boast, recalling the warning of the King of Israel to the King of Arabia, when he said

> "Let him not that girdeth on his harness boast himself as he that put-

teth it off,"

again permit me to thank you for the wonderful co-operation you have given, and beg of you a continuation of this counsel.

Your president's time is your time, at any and all occasions he is at your service, and he hopes to conduct your affairs so that when he surrenders the authority to his successor next May, you will have no cause to regret the confidence you have imposed in him.

Remember,

> "Organized Medicine needs every Doctor and every Doctor needs Organized Medicine."

Interpreting Medical Literature

PEDIATRICS

Harvey F. Garrison, M.D., Jackson

Studies in the Use of Crystalline Vitamin C (Ascorbic Acid) in the Prophylaxis and Treatment of Infantile Scurvy and Some Other Disorders of Infancy and Childhood.—(Kenney, Athol S., and Rapoport, Milton—Journal of Ped., 14:161, Feb., 1939).—"The ready availability of the citrus fruits and other natural sources of vitamin C, such as tomato juice, in the United States will undoubtedly prelude the widespread use of ascorbic acid as an antiscorbutic in the dietary of the normal infant. However, in those countries where the citrus fruits are not readily obtained, ascorbic acid would seem to be a relatively inexpensive source of the vitamin. In addition, it would seem indicated in the dietary of the occasional infant who cannot tolerate citrus fruits. In the treatment of the scorbutic infant with diarrhea or vomiting, the parenteral administration of ascorbic acid furnishes a therapeutic agent of value. Some limited experience at the Children's Hospital with the use of ascorbic acid in the dietary of the premature infant indicates that this substance is a well-tolerated source of the vitamin for such infants."

A group of 19 white infants were given ascorbic acid for a period of five months as a prophylactic against scurvy. The dosage was 1.83 mg. per kg. daily. The acid was dissolved in 10 per cent dark corn syrup.

"Over the five-month period of observation roentgenograms of an arm and a leg as well as physical examinations were made at monthly intervals. During this period all the infants were free from clinical and x-ray signs of scurvy."

Crystalline vitamin C was used in the treatment of 21 cases of infantile scurvy. "The dosage of ascorbic acid employed in the treatment of these cases was varied to determine the response to different routes of administration. In most cases it was administered orally, the daily dose being dissolved in 5 and 10 cc. of water and given at one time. When the acid was given intravenously, it was usually dissolved in 5 to 10 cc. of normal saline solution. If the intravenous dose exceeded 100 mg., it was dissolved in hypotonic salt solution (half normal saline solution and half distilled water) using about 50 cc. of this fluid. This is probably an unnecessary precaution, since the full dose may be administered in normal saline. Other than one infant weighing fourteen pounds who developed hypevrrn7x nfourteen pounds who developed hypernea of five minutes duration following the intravenous administration of 1,000 mg. of ascorbic acid, there were no untoward local or constitutional reactions noted in the infants and children given the substance intravenously." The amount of ascorbic acid utilized to effect clinical healing in these infants varied from 100 mg. to 500 mg. with an average of 310 mg.

"Since it requires an average total dose of 300 to 500 mg. of ascorbic acid to produce clinical remission of scurvy over a variable period of days, it seems that a more rational procedure would be to give the scorbutic infant one large dose of crystalline vitamin C at the beginning of the therapy, e.g., 500 mg. Then on the following three or four days this dose could be repeated daily until 2,000 mg. have been given, this latter figure being the dose which Ingalls states to be necessary to produce saturation. Following this, the infant can be placed on a maintenance dose of 25 to 50 mg. daily."

"There is a considerable lag in the time between the disappearance of the clinical manifestations of scurvy and the appearance of healing in the x-ray plates."

"Fever is known to be a common accompaniment of scurvy. A review of 56 cases of scurvy reveals that 47 cases or 84 per cent were febrile at the time of admission. However, one must use caution in attributing the fever in these cases to the avitaminosis per se, for in 31 cases (febrile) infection was present, usually of severity sufficient to account for the elevated temperature. Of the remaining 16 febrile uninfected patients, nine had either large sub-periosteal hematomas or severe fractures which could have accounted for the rise in temperature. Thus in a scorbutic infant who is not infected and who does not have a large sub-periosteal hemorrhage or a fracture, fever is just as likely to be absent as present."

In the afebrile cases there was no rise in temperature following the use of ascorbic acid. The effect of ascorbic acid upon the anemia of scurvy was studied in five infants who were free from infection. In the two cases in which no response in hemoglobin or red cell formation was noted following the administration of vitamin C, it is possible that the reserve (iron) in these infants was so depleted that no iron was available for hemoglobin formation. This would seem to be a logical conclusion, for the diets of these scorbutic infants, were inadequate in iron-containing foodstuffs, usually being limited to boiled milk. In the three infants manifesting a response in hemoglobin formation after administration of vitamin C, one must assume that there was still some iron reserve even though these infants were also on inadquate diets.

Hemorrhage in scurvy has been attributed to increased capillary fragility. The influence of ascorbic acid upon capillary fragility was studied in 13 scorbutic infants. There was no constant effect produced upon the capillary resistance (capillary fragility test) in these scorbutic infants following the administration of vitamin C.

"Crystalline vitamin C seemed to stimulate wound healing in the incision of an infant operated upon for pyloric stenosis in whom there was no evidence of healing prior to its administration.

"Intravenous administration of vitamin C seemed to have no effect on the hematuria in a case of sub-acute hemorrhagic nephritis."

COMMENT: The use of ascorbic acid in the prophylaxis and treatment of infantile scurvy as well as many other disorders of infancy and childhood is well known and its importance cannot be over emphasized.

This article would likely be most interesting to those who especially have to deal with children, as well as immensely important to the general practitioners.

EYE, EAR, NOSE AND THROAT

Alston Callahan, Vicksburg

THE TREATMENT OF GLAUCOMA WITH SPLENIC EXTRACT, by E. A. Miller, M.D., American Journal of Ophthalmology.—Several cases of glaucoma are presented which did not respond to medical treatment (eserine, ephedrin, and pilocarpine), and who would not submit to operative interference. These cases were treated with intramuscular injections of splenic extract and made a surprisingly good recovery. Much of the thought in this article was derived from consultation with prominent skin specialists who treated allergic and eczematous conditions of the skin with the splenic extract. Following the initial successful use of this drug twenty-two glaucomatous patients were treated with splenic extract. In most of the cases, prompt and complete recovery occurred. Several of the patients did not return for further treatment.

The following theory is advanced; that primary glaucoma is angio-neurotic edema within the eyeball just as migraine is an angio-neurotic edema of the brain. This is proved, so the essayist states, by the prompt relief of symptoms and reduction of intra-ocular pressure following injection of a deproteinized extract from hog's spleen. The only reaction to be feared from this is an intensification of symptoms sometimes following the injection. Such reactions have been observed in cases of asthma, urticaria and eczema. Continuation of this treatment will result in permanent recovery in most of these cases. The danger of opening the eyeball under high tension is greatly reduced in cases demanding operations despite this treatment. Therapeutic effects are not in proportion to the degree of the splenic extract concentration and favorable results can be obtained only if the extract happens to contain the curative element.

COMMENT

This reviewer often refers the various articles being written on glaucoma to the doctors practicing in Mississippi; this is done because there is a vast number of people, particularly in the colored race, in Mississippi who are afflicted with this terrible condition. Rarely is it recognized by a country doctor. In fact, many country doctors have prescribed atropine to be used in the eyes, which makes bad matters much worse. It seems regrettable that more physicians do not palpate the eye ball in an effort to ascertain the tension of the eye.

When ophthalmic surgeons first recognized glaucoma as a cause of terrible pain and permanent blindness, these effects seemed unavoidable. When Graefe noticed that iridectomy lowered intra-ocular tension, and reported some cases cured by the operation, it was at once accepted as the one cure of glaucoma. Since then, other operations—division of the ciliary body, iridotomy, trephining, iris inclusions, the Lagrange operation, cyclodialysis, Holth's punch operation, and opening of Schlemm's canal—have been brought forward as curative of the disease. These operations have all been founded, mainly, on the assumption that glaucoma was caused by mechanical obstruction to the outflow of fluid from the eye ball, and was to be relieved by opening a new channel for such mechanical outflow.

It must be supposed that the endothelium of the capillary blood vessels and the glass membranes of the eye—Bowman's, Descement's, the lens capsule, and Bruch's may play a part in these processes as well as the composition of the blood serum and the height of the blood pressure. But our knowledge of the physiology and biochemistry of nutrition for the different tissues of the eye is scanty.

An approach to this side of the glaucoma question is suggested in the use of splenic extract, as described in this issue of the Journal, page 536. The facts already observed would suggest the production in the spleen of some biochemical product capable, either directly or indirectly of influencing the intra-ocular pressure. What this substance is, and how it acts, we do not know. But each use of it to reduce the intra-ocular pressure in a case of glaucoma becomes a physiological experiment, to be observed and recorded with associated phenomena as capable of throwing possible light on the essential process of intra-ocular tension and its pathological increase.

OFFICERS ELECTED AT MISSISSIPPI STATE MEETING

PRESIDENT-ELECT—W. H. Anderson, Booneville

VICE-PRESIDENTS:
Southern District, T. E. Ross, Hattiesburg
Central District, Hugh Johnston, Vicksburg
Northern District, J. E. Ellis, West Point.

HISTORIAN—Leon S. Lippincott, Vicksburg

EDITOR—Lawrence W. Long, Jackson

ASSOCIATE-EDITOR—Stanley A. Hill, Corinth

SPEAKER—J. Rice Williams, Houston

TREASURER—E. LeRoy Wilkins, Clarksdale

SECRETARY—T. M. Dye, Clarksdale

COUNCILORS:
Seventh District, J. P. Culpepper, Hattiesburg
Eighth District, W. H. Frizell, Brookhaven
Ninth District, Dan J. Williams, Gulfport
Fourth District, J. K. Avent, Grenada

FOR MEMBER BOARD OF HEALTH:
SECOND DISTRICT: Sam E. Eason, New Albany; Ira B. Seale, Holly Springs; J. C. Culley, Oxford.
FOURTH DISTRICT: M. E. Arrington, Vaiden; E. W. Holmes, Winona; B. J. Shaw, Slate Springs.
FIFTH DISTRICT: H. L. Arnold, Meridian; W. H. Banks, Philadelphia; E. L. Richardson, Louisville.

COMMITTEES:
PUBLIC POLICY AND LEGISTON: F. J. Underwood, Jackson.
CONSTITUTION AND BY-LAWS: H. Lowry Rush, Meridian.
BUDGET AND FINANCE: J. S. Hickman, Meridian.

DELEGATE TO AMERICAN MEDICAL ASSOCIATION — Harvey F. Garrison, Jackson.

FRATERNAL DELEGATES:
Louisiana—A. Street, Vicksburg,
Arkansas—C. W. Patterson, Rosedale,
Tennessee—M. Q. Ewing, Amory,
Alabama—A. M. McCarthy, Electric Mills.

COAHOMA COUNTY MEDICAL SOCIETY AND CLARKSDALE HOSPITAL MEDICAL STAFF

The Coahoma County Medical Society and Clarksdale Hospital Medical Staff met in the Dining Room of the Alcazar Hotel at 12 o'clock, Wednesday, May 10, 1939. The minutes of the secretary were approved as read.

The secretary then explained that he had arranged for a course in Postgraduate Medical Education to be given in Clarksdale this summer commencing May 16. Dr. J. A. MacNeal made a motion which was seconded by Dr. L. H. Brevard that the secretary's action in this matter be okeyed. The motion was carried and it was decided to hold the meetings in the City Hall at 1:30 p. m. on the Tuesdays and Thursdays of each week.

The president, Dr. D. H. Griffin, then announced that there would be an election of officers for the society at our next monthly meeting in June and urged all members to be present.

There being no further business the society adjourned.

Clarksdale, Julius L. Levy, M.D.,
May 10, 1939 Secretary-Treasurer.

LEFLORE COUNTY

Dr. T. B. Holloman has moved from Bentonia to Itta Bena, his old home, and we are glad to welcome him home, where he will do general practice.

Dr. and Mrs. J. R. Hightower, Cleveland, Tenn., formerly of Itta Bena, announce the arrival of a son, Jesse R., Jr., born April 9, at Cleveland, Tenn.

The doctors from Greenwood attending the meeting of the Delta Medical Society at Greenville, April 11, were: Drs. J. C. Adams, I. B. Bright, S. L. Brister, W. E. Denman, W. B. Dickins, G. Y. Gillespie, Jr., J. C. Pegues, L. B. Otken, R. E. Wilson.

Funeral services of Dr. E. J. Hudspeth, Ruleville, were held in Greenwood at the Williams funeral home, April 21.

Dr. A. D. Chester, Cruger, died in Memphis at the Veterans Hospital on April 23, and was buried at the Odd Fellows cemetery, Greenwood, April 24.

May 2, 1939. County Editor
W. B. Dickins

MISSISSIPPI STATE BOARD OF HEALTH

Four Mississippi medical students have been awarded Commonwealth scholarships to Tulane University School of Medicine, according to an announcement of Dr. Felix J. Underwood, State Health Officer. They are the following: Malcolm Bates Burris, Clinton; George Eckel Felknor, Jr., Meridian; John William Overstreet, Jr., Starkville; and Charles Daniel Taylor, Jr., Pass Christian.

These scholarships provide $1,000 a year to each student for medical education. One condition of the scholarships is that recipients agree to return to Mississippi after graduation and practice medicine in a rural community at least three years.

Though competent medical and surgical services are available in most Mississippi towns and cities, rural sections generally are deficient in these services. Commonwealth scholarships are offered to help meet this need in co-operation with the State Board of Health and Tulane University.

* * * *

Serving in several national offices varying from President of the State and Provincial Health Authorities of North America to committee member of the White House Planning Conference, Dr. Underwood spend a busy fortnight in Washington the latter part of April.

To health officers from forty-eight states, Canadian provinces, Hawaii, Alaska, Cuba, Mexico and Puerto Rico, he delivered the Presidential Address of the Health Authorities meeting as well as the report of the National Committee on Child Hygiene, of which he is chairman. At the meeting of the closely related group, the State and Territorial Health Officers, he gave the reports of the Maternal and Infant Health Committee and the Yellow Fever Committee, both of which he is chairman.

Stressing the need and value of health education in his Presidential Address to the State and Provincial Health Authorities of North America, Dr. Underwood said that the health program, to be successful, must have the confidence and support of the people who benefit by it. "Full support cannot be secured," he pointed out, "unless there is popular understanding of the purposes and objectives of the program. To achieve this end there must be applied health education in its broadest concepts . . . . .

"A free flow of inaccurate and misleading propaganda constitutes one of the greatest menaces of all times to the health of the nation. The perpetrators of these acts, quacks and patent medicine vendors, have capitalized on all of the effective mediums which have been worked out for health teaching in our field and in addition have applied the extra force of salesmanship as well as good psychology.

"We cannot hope to repair all of the physical damage which the quack has inflicted upon the trusting individual who depended, too long, upon 'super cures' and false promises, but we can hope to correct the mental state, or attitude, of those whose eyes might be turned in that direction by showing the fallacy of the quack's methods in contrast to what medical science now provides.

"Unless health officers are prepared to give 'adequate leadership' for the application of scientific health teaching, that leadership will be found elsewhere, and the whole public health program will suffer," Dr. Underwood told his fellow officers who were gathered from the forty-eight states, Canadian provinces, Mexico, Cuba, Hawaii, Alaska and Puerto Rico.

"Understanding, assistance and co-operation of the medical profession is also essential," he said, and declared there is now an increasing sense of responsibility throughout the nation toward working together between the public health official and the practicing physician. "In Mississippi," he told the health authorities, "the State Board of Health acts only with the counsel of the medical profession which through the State Medical Association elects eight of the nine board members. The other member is a dentist."

He explained that the Mississippi department is extending to physicians, nurses, teachers and others the facilities of a diagnostic laboratory, a medical library and pamphlet material on all medical subjects to assist in teaching.

As Chairman of the Child Hygiene Committee, Dr. Underwood stated that outstanding activities in maternal and child health during the past year have been extension of maternal and child health services in new areas and improvement of existing services carried on at the present time. "We have reason to hope that within a few years the comparison of our maternal and infant death rates with those of European counties will no longer be a cause of embarrassment," he said.

* * * *

Twenty Mississippi physicians delivered an average of 144 babies each during 1939, according to Dr. R. N. Whitfield, Director of Vital Statistics. Each of these physicians delivered more than 100 babies, and one who lives in a small Mississippi town delivered 204. Another physician on duty at a Charity Hospital signed 279 birth certificates during 1938 and 212 during 1937.

Each of these twenty physicians is receiving a photostatic copy of his record, which shows the number of births recorded by him during the year, the number of births filed on time, and the number of records he delayed in filing.

Dr. Whitfield commends highly the promptness with which these physicians who delivered such a high average of babies filed birth certificates. Of the 2894 certificates filed by these physicians, only 45 delayed certificates were submitted, Dr. Whitfield revealed.

* * * *

Examinations for license to practice medicine will be held June 21-22 in Jackson at the Robert E. Lee Hotel. Tests on the first two years of medicine will be held June 21, and on the last two years June 22. Certificates and medical diplomas must be sent or brought for verification.

Application blanks may be secured by writing Dr. R. N. Whitfield, assistant secretary of the State Board of Health, at Jackson.

Activities of the State Hygienic Laboratory, which serves as a diagnostic aid to the physicians of Mississippi, have increased to such an extent that an addition is under way to provide sufficient facilities. Scheduled for completion by June 1, the addition will cost approximately $10,000. New equipment valued at $2,500 will improve facilities in the diagnosis of syphilis, intestinal parasites, and tuberculosis.

* * * *

Two-day syphilis institutes for public health nurses are scheduled in five regional centers in the state during May. Arranged by Miss Mary D. Osborne, Supervisor of Public Health Nursing, meetings are in charge of Miss Donna

Pearce, R. N., Regional Public Health Nursing Consultant, United States Public Health Service, New Orleans, La., and Dr. D. V. Galloway, Supervisor of Venereal Disease Control, State Board of Health, Jackson. Purpose of the institutes is staff education for expert handling of public health problems regarding syphilis.

Designed to reach all public health nurses in Mississippi, meetings are scheduled in Jackson, Tupelo, Meridian, Hattiesburg, and Greenwood.

* * * *

Mississippi's program for venereal disease control compares favorably with that of other states, Dr. D. V. Galloway, Supervisor of Venereal Disease Control, said following a three weeks' study tour of veneral diseases programs in the East. Dr. Galloway visited the venereal disease clinic at Johns Hopkins in Baltimore and the clinics of several states during his trip.

* * * *

Staff Conferences during April were conducted by Dr. Henry Boswell, Director of Tuberculosis Control on April 8; and by Dr. A. L. Gray, Director of Preventable Disease Control on April 22.

* * * *

Twenty-one laboratory workers from points throughout the state attended the "malaria school" sponsored jointly by the State Board of Health and the United States Public Health Service and conducted by Miss Aimee Wilcox, Senior Technologist of the United States Public Health Service.

* * * *

Starting May 6, State Board of Health radio programs will be broadcast over WJDX an hour earlier than formerly. They may now be heard each Saturday at 8:30 a. m. Taking part on the radio programs during April were the following:

April 1. Dr. Andrew Hedmeg, Director, Adams County Health Department, Natchez, Mississippi, "Syphilis in the Negro."

April 8. Miss Eleanor Hassell, Assistant Supervisor, Health Education Division, State Board of Health, Jackson—"The Citizen's Responsibility for Community Health."

April 15. Dr. J. A. Milne, Director, County Health Work, State Board of Health, Jackson—"The Importance of Correct Speech in Children."

April 22. Dr. T. Paul Haney, Jr., Director, Pike County Health Department, McComb, Mississippi—"Food for the Growing Child."

WOMAN'S AUXILIARY

(Continued from page 58)

Mrs. John B. Howell presided at one of the best attended Auxiliary meetings since the state organization began. Her presidency was marked by a general increase in understanding of the purpose of the Woman's Auxiliary and a deeper feeling of oneness among the doctors' wives over the state. The effort of the members to assist the medical organization in a more definite way the past year received the hearty appreciation of the doctors, who conveyed their thanks through the advisory council.

Reports revealed a membership exceeding three hundred, with harmony and activity the keynote of every separate auxiliary. Special appreciation was voiced over the generosity of a benefactor for the Preventorium, whose monthly donation of $25.00 is promised for additional care of the children and their playground equipment. Another important feature of the meeting was the endorsement of Mrs. Henry Boswell's motion that Mrs. Dan J. Williams be made honorary president of the Auxiliary for life. A beautiful tribute of appreciation for the untiring work of the one who organized the group sixteen years ago and who was referred to as "our mother," accompanied the token presented her at the meeting and later when a huge cake topped with sixteen candles highlighted the luncheon at the Edgewater Gulf Hotel. The gavel, relinquished graciously by the retiring president, was accepted by Mrs. Hugh Johnston of Vicksburg who was accorded an enthusiastic pledge of support during the coming year. Mrs. John Harter of Sanatorium was chosen as delegate to the A. M. A. in St. Louis.

The program of entertainment included the past-presidents' luncheon, delightful drives along the Coast, a tea at the charming Biloxi home of Mrs. J. T. Weeks, the luncheon at the Edgewater Gulf and a garden party on the Hotel Markham lawn. Mrs. M. M. Snelling of Gulfport presided at the Edgewater Gulf luncheon, when past and new officers were presented.

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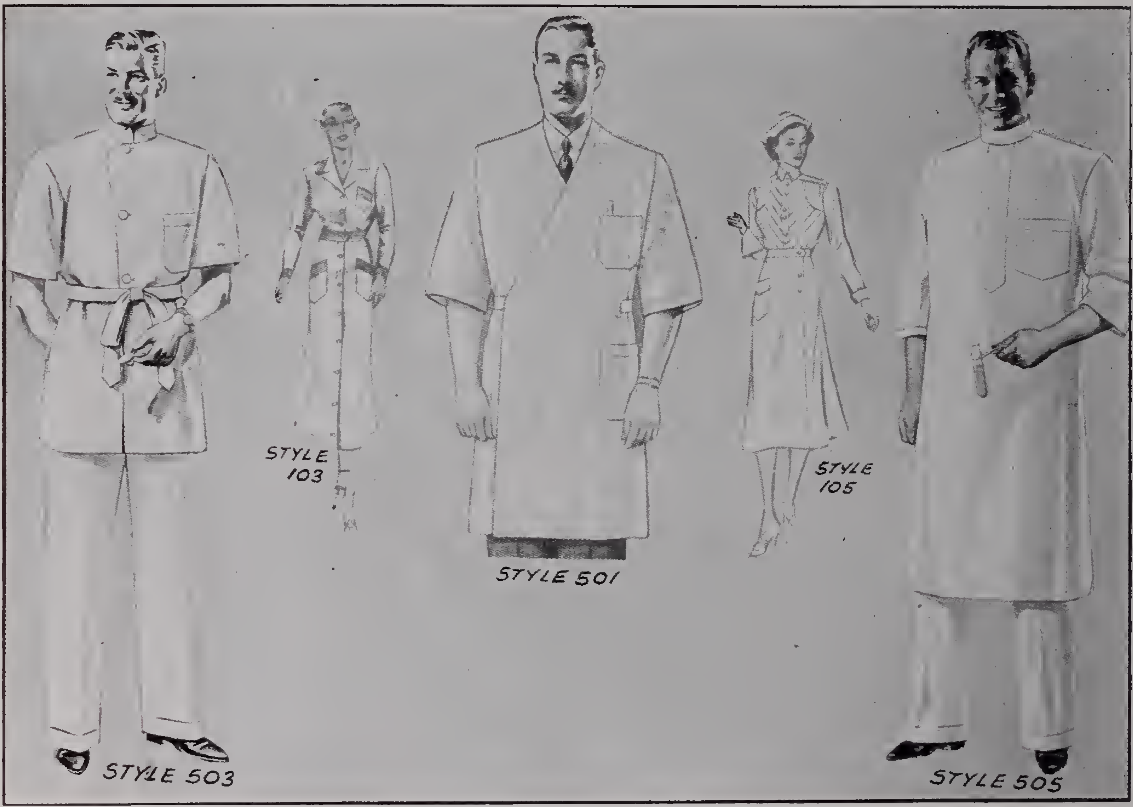
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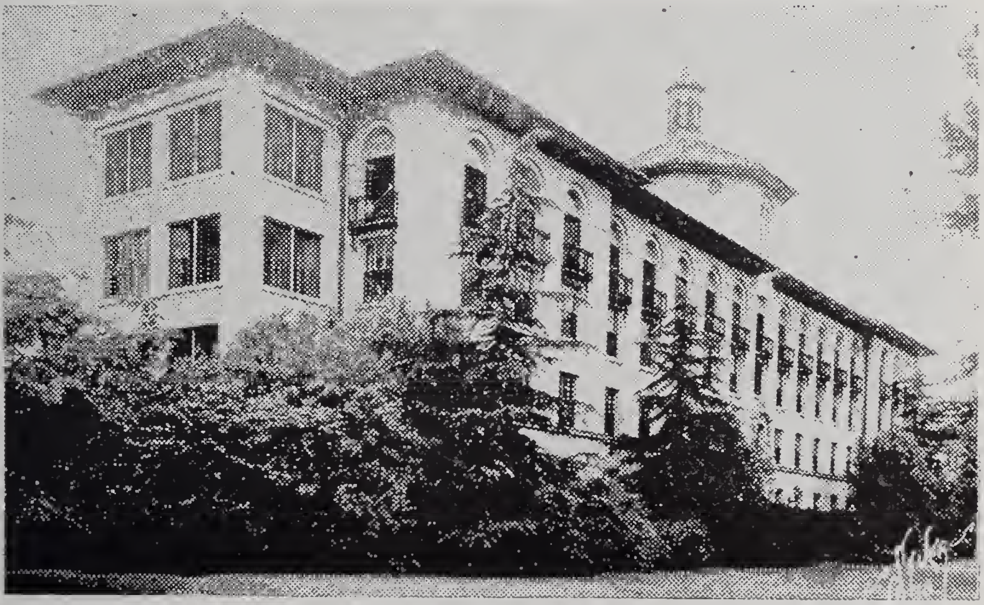

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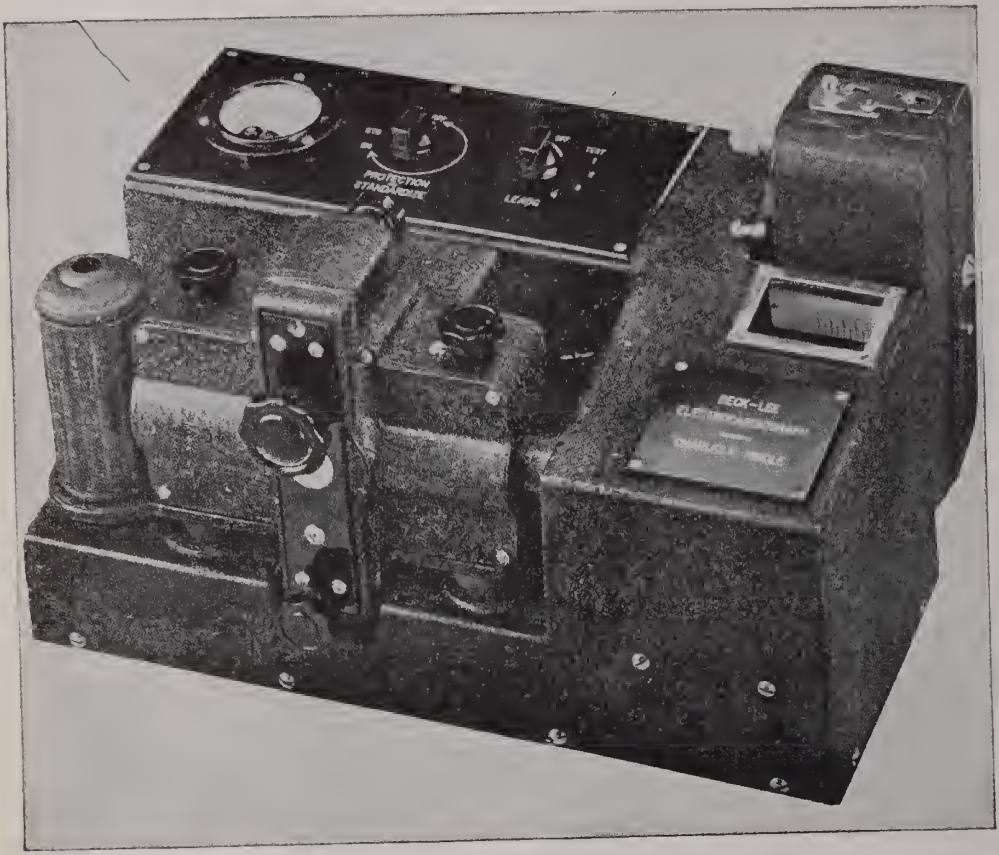

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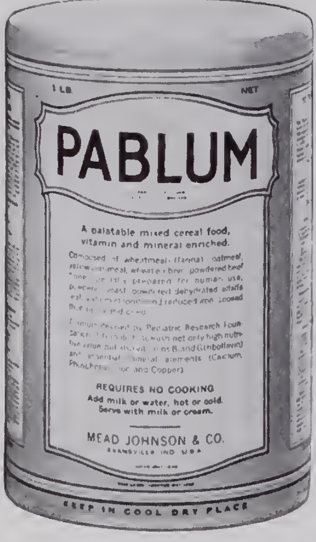
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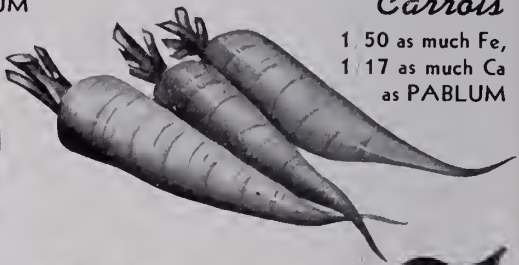

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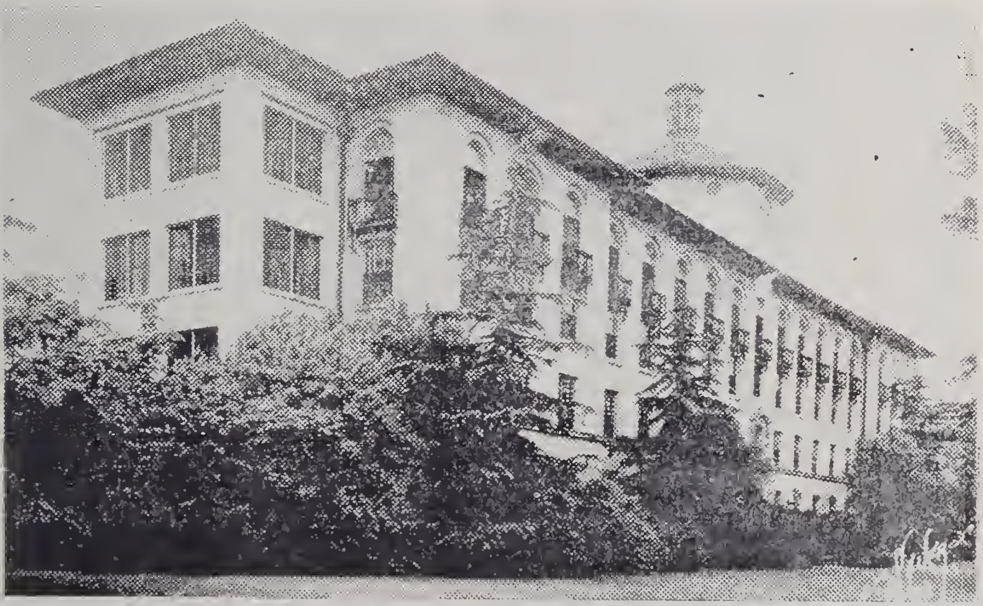

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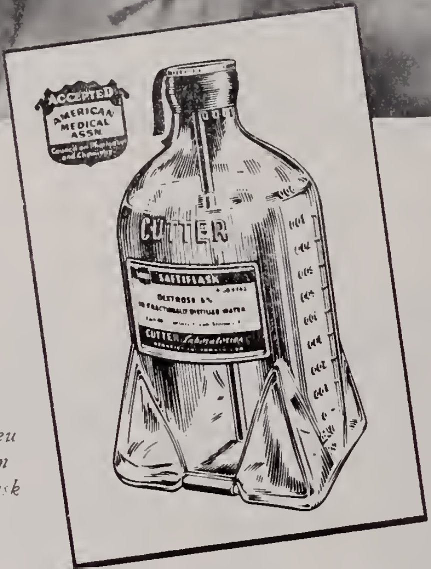
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The Diagnosis and Treatment of Coronary Artery Disease*

A. CARLTON ERNSTENE, M.D.†
CLEVELAND, OHIO

THE FIVE chief manifestations of coronary artery disease are: (1) angina pectoris, (2) coronary thrombosis with infarction of the myocardium, (3) cardiac asthma (paroxysmal cardiac dyspnea), (4) the Adams-Stokes syndrome, and (5) congestive myocardial failure. Each of these conditions gives rise to a well-differentiated clinical picture, and the management of each differs in important respects from that of the others. The diagnostic features and treatment of the various syndromes will be discussed in the present communication.

ANGINA PECTORIS

Angina pectoris is a descriptive term applied to paroxysmal attacks of substernal pain which characteristically are precipitated by exertion or excitement and are relieved promptly by rest. The patient often experiences difficulty in describing the pain and frequently refers to it as a sensation of fullness, pressure, tightness or heaviness in the anterior chest. The distress is of such a nature as to enforce cessation of all activity and at times is accompanied by a sense of impending death. There may or may not be radiation of the discomfort to the neck, jaws or inner aspect of the arms. Glyceryl trinitrate and similar preparations give prompt relief from the symptoms. Death may occur instantaneously during an attack.

The most important measure in the treatment of angina pectoris consists of impressing upon the patient the imperative need for limitation of his activity in order to avoid, so far as possible, the induction of attacks. Hurry and unusual exertion of all kinds must be prohibited. Certain conditions exert an important effect upon the ease with which the pain is precipitated, and the patient must be instructed fully concerning these. The attacks come on with greater readiness during cold weather than during the warmer months. The patient therefore must be advised to reduce his gait during the fall and winter months and must be informed specifically of the greatly added load which walking against a wind or through snow places upon the heart. Residence in a warmer climate should be urged in all cases in which such a change is financially possible. Less exertion usually is required to induce the pain soon after eating than at other times, and occasionally an attack may result from the taking of a large meal without additional activity. Because of this it is important that overeating be avoided and that the patient rest for at least 30 minutes after each meal. Occasionally it is advisable to allow four or five small meals daily rather than three larger ones. The overweight individual should be placed upon a reducing diet, for the loss of excess weight will result in a proportionate diminution in the demands on the heart during physical activity. Coffee and tea should be allowed only in moderation, and the consumption of tobacco should be reduced to the lowest level the patient will accept. Because straining at stool may initiate an attack in certain persons, suitable measures must be taken to avoid constipation.

Many preparations have been recommended for use in patients with angina pectoris with the aim of increasing blood flow through the diseased coronary arteries, but the clinical effectiveness of most of these drugs remains doubtful. Although the administration of aminophyllin and similar preparations in sufficient amounts results in a certain degree of increase in the ability of the patient to do measured work without pain, the magnitude of this increase is seldom such as to be of appreciable help in the regular daily activities of the individual. Most patients appear to do quite as well without drugs of this nature as they do with them, but an occasional individual seems to be distinctly benefited by them.

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*Read before the Section on Medicine at the seventy-second annual session of the Mississippi State Medical Association, May 11, 1939, Gulfport, Miss.

†From the Cleveland Clinic.

The two drugs of thoroughly established value in the management of angina pectoris are glyceryl trinitrate and amyl nitrite. Of the two, the former is to be preferred; it is just as effective as the latter, has a somewhat longer period of action, is less unpleasant to use and less expensive. Only fresh tablets should be employed, and these should be dissolved under the tongue or should be chewed thoroughly before swallowing. For many individuals a 1/200 grain tablet is as effective as a larger amount. The drug is employed not only for the relief of anginal pain but also as a means of preventing the development of attacks. Many patients are forced by the nature of their occupation to perform tasks which regularly precipitate anginal pain, and in these persons the attacks often can be prevented from developing by the use of glyceryl trinitrate shortly before undertaking the unavoidable exertion. In unusual circumstances from 12 to 20 tablets may be used in this manner each day. When attacks are liable to follow a meal, the drug may be given for its prophylactic effect either immediately before or soon after eating. The frequent use of nitroglycerine does no harm and often enables the patient to get along comfortably for a long time. It does not excuse him, however, from avoiding unnecessary types of activity that may bring on an attack.

In persons who are inclined to worry or in whom anginal pain is induced by emotional upsets, sedatives are indicated and may have a very beneficial effect. Occasionally an appreciable increase in exercise tolerance follows the use of whisky or brandy in doses of one-half ounce or one ounce with each meal. Digitalis is employed only in the presence of such evidence of myocardial insufficiency as dyspnea on limited activity, passive congestion of the lungs, and edema of the lower extremities.

Of the various surgical measures that have been employed in the treatment of angina pectoris, alcohol injection of the upper four thoracic sympathetic ganglia on one or both sides appears to be the safest procedure and to be equal to any other in effectiveness. This method of treatment does not change the condition of the coronary vessels but it does afford the patient partial or complete relief from his attacks and may therefore enable him to remain self-supporting for a considerable length of time. Neuritis of the infiltrated intercostal nerves is a rather common complication of the injections but is seldom a source of great complaint in those who have had severe anginal attacks. This method of treatment is worthy of wider application than at present but its use should be restricted to those cases in which the attacks can be controlled in no other way.

The work of Beck and his associates in establishing a new blood supply to the heart by grafting a part of the pectoral muscle upon the myocardium constitutes a direct attack on the underlying coronary artery disease. The clinical results have been distinctly encouraging and the further progress of the work will be watched with great interest.

Coronary Thrombosis

The clinical picture of acute coronary thrombosis is too well known to warrant detailed description at this time. The pain is similar to that in angina pectoris but is more severe and of longer duration. Symptoms of shock of mild or severe degree usually appear soon after the onset, and fever and leukocytosis generally develop within the first 24 hours. The erythrocyte sedimentation rate becomes elevated. A pericardial friction rub may appear at any time during the first few days after the attack and may last for only a few hours or for several days. The electrocardiogram will show characteristic changes in practically all cases of coronary thrombosis if records are made at daily intervals and if both standard and precordial leads are used.

The first aim in the treatment of acute coronary thrombosis is to relieve the pain. For this purpose, morphine sulphate should be administered as promptly as possible by hypodermic injection. The initial dose is usually one-fourth grain but whenever the pain is exceptionally severe one should not hesitate to administer one-half grain. Subsequent doses of one-fourth grain should be given at intervals of one-half hour or so if the distress continues unabated. At times, it may be necessary to administer as much as one grain within the first hour or two. The patient should be placed in bed as soon as possible after the onset of symptoms, and should not be disturbed by frequent examinations. Because of the shock and profuse perspiration which often are present, the body should be kept warm and, as soon as the patient is more comfortable and is free from nausea and vomiting, fluids should be offered in frequent small amounts. Stimulants, such as caffein sodium benzoate, are administered only if the systolic blood pressure falls below 80 mm. of mercury.

In the more severe attacks of coronary thrombosis which are accompanied by cyanosis and intense dyspnea, the administration of oxygen should be instituted as promptly as possible, preferably by means of an oxygen tent. Not only does this measure reduce the cyanosis and dyspnea but it may also lessen the intensity and shorten the duration of the pain.

After the pain and initial shock have been controlled, the majority of patients require little medication. It appears advisable, however, to administer quinidine sulphate in doses of 0.2 gm. (3 grains) two or three times a day as a possible prophylactic against the development of ventricular paroxysmal tachycardia and ventricular fibrillation. Aminophyllin may be given in doses of 0.1 gm. (1½ grains) three or four times a day but its value is hard to estimate. Sedatives may be necessary in small divided doses during the day or at bedtime to control restlessness. Digitalis is employed only in the event of congestive myocardial failure or when there is auricular fibrillation with a rapid ventricular rate. The diet should be simple and should be limited to a value of 800 or 1000 calories. If the bowels do not move spontaneously, enemas should not be administered until after the second or third day.

The emphasis in treatment should be placed on the necessity for absolute rest. The patient should be fed and should not be allowed to help in changing his position for at least two weeks, and the total period of rest in bed should be from six to eight weeks. The erythrocyte sedimentation rate is a helpful guide in this respect; rest is enforced until the rate has shown a considerable return toward normal and has reached a stationary level. After the period in bed, the patient is permitted to be up for short and gradually increasing lengths of time daily but is not allowed to return to his business activities for 3 to 12 months, depending upon the severity of the attack.

The most important complications of coronary thrombosis are (1) sudden death due to rupture of the ventricle or to ventricular fibrillation, (2) ventricular paroxysmal tachycardia, (3) congestive heart failure and (4) embolis accidents. Sudden death and ventricular paroxysmal tachycardia occur most commonly during the first two weeks after the occlusion. Ventricular tachycardia may be a forerunner of ventricular fibrillation or it may be directly responsible for the development of congestive heart failure. Its onset calls for the administration of increased amounts of quinidine sulphate. Congestive myocardial failure is treated by the usual measures, including the use of digitalis. After acute coronary thrombosis, a mural thrombus commonly forms on the endocardial surface of the infarcted myocardium. Embolic accidents, the result of dislodgment of portions of the thrombus, may occur at any time during the first six weeks after the attack but are most common during the earlier part of this period. The emboli may lodge in any part of the pulmonary or systemic circulation and their treatment usually is limited to symptomatic measures.

CARDIAC ASTHMA

Coronary artery disease is a common cause of that form of paroxysmal dyspnea to which the term cardiac asthma is applied. The attacks of dyspnea are due to failure of a damaged left ventricle and usually occur at night although occasionally they are induced by exertion. Because of relative weakness of the left ventricle, an increased amount of blood accumulates gradually in the pulmonary vessels during sleep in the recumbent position. The vital capacity, which is already diminished, is still further reduced as the degree of pulmonary congestion increases, and all that is now necessary to initiate the attack of cardiac asthma is some factor which acts as the trigger mechanism. Cough, Cheyne-Stokes respiration, noise, disturbing dreams and the urinary reflex most commonly supply this factor. The patient wakens with respiratory distress and is forced to sit up or stand in order to breathe. Asthmatic breathing develops, with both inspiratory and expiratory difficulty, and as the attack progresses acute pulmonary edema may supervene.

The two most important measures in the treatment of attacks of cardiac asthma are morphine and the upright position. Morphine exerts its beneficial effect by depressing the respiratory and vasomotor centers in the medulla and by reducing the patient's apprehension and anxiety. The drug should be administered hypodermically as early in the attack as possible, usually in doses of one-fourth grain, and should be repeated if the patient does not appear to be improved within fifteen or twenty minutes. The relief which the patient experiences in the upright position probably is due principally to the increase in the vital capacity which accompanies the change from the recumbent to the erect posture. There is evidence also that the minute volume output of the heart is decreased in the upright position and, of course, any reduction in cardiac work would lead to an improved state of the pulmonary circulation.

Morphine and the upright position at times may fail to relieve the patient sufficiently and other measures must be employed. Aminophyllin may be given by intravenous injection in doses of 0.48 gm. diluted with physiologic solution of sodium chloride or 50 per cent dextrose solution and may bring about prompt improvement. The beneficial effect of the preparation is attributed principally to its action on the coronary circulation[2] but the drug also causes a diminution in the degree of bronchial spasm[3]. In the absence of anemia, venesection should be carried out with the removal of 250 cc. to 500 cc. of blood. This may result in prompt and lasting relief, particularly in patients who present engorgement of the peripheral veins. Venesection reduces the circulating blood volume, and as a result the work of the heart is diminished and pulmonary congestion is lessened. An effect similar to that of venesection may be obtained by applying blood pressure cuffs to the four extremities and inflating them to a pressure just above diastolic blood pressure. The administration of oxygen by means of a tent or by nasal catheter is also a measure of great value and should be instituted as promptly as possible.

In patients in whom cardiac asthma progresses to acute pulmonary edema in spite of the above measures, either strophanthin or a suitable preparation of digitalis should be given intravenously. It is, of course, essential to ascertain these patients have not received digitalis earlier.

A patient who has experienced an attack of cardiac asthma due to failure of the left ventricle should be treated as any other individual who presents evidence of impaired myocardial reserve. Complete digitalization and the subsequent administration of daily maintenance amounts of the drug are indicated, and in subjects who have had but mild attacks, this measure alone may suffice to prevent the recurrence of paroxysms. In those who have suffered more severe attacks, a period of absolute rest is advisable and should be followed by strict limitation of activity. Restriction of fluids and the administration of diuretic drugs also are valuable measures. At times, the intravenous injection of hypertonic glucose (50 to 100 cc. of a 25 or 50 per cent solution daily for several days), may be helpful in diminishing the frequency of attacks. Because cardiac asthma due to left ventricular failure usually occurs at night and the onset of the seizure is favored by the recumbent position, the patient should be instructed to sleep well propped up in bed. Sedatives also should be given to insure sound sleep since the attacks generally are precipitated by some factor which tends to waken the patient.

HEART BLOCK

Coronary artery disease is the most common cause of auriculoventricular block. Simple prolongation of auriculoventricular conduction time is observed at times in individuals who have no symptoms referable to the cardiovascular system. More commonly, however, just as in the higher grades of heart block, the patient presents evidence of reduced myocardial reserve, and in such cases the cautious administration of digitalis is indicated. The treatment should be carried out with electrocardiographic control, and if the degree of block increases, the drug should be discontinued. In favorable cases, suitable amounts of digitalis not only relieve the symptoms of myocardial insufficiency but may also reduce the degree of block or abolish it entirely.

The higher grades of heart block, and particularly complete auriculoventricular dissociation, may be complicated by Adams-Stokes attacks due to temporary standstill of the ventricles. The seizures are characterized by dizziness, syncope or convulsions, depending upon the duration of the ventricular asystole. Adams-Stokes attacks are not common, but individuals in whom they occur are liable to have repeated seizures. The actual attacks seldom call for treatment, and therapy is directed toward preventing their recurrence. Occasionally, however, the standstill may be of such duration as to necessitate the intracardiac injection of epinephrine and this procedure may be directly responsible for the saving of life. The most effective drugs for preventing recurrent attacks are epinephrine (0.5 cc. to 1.0 cc. of the 1:1000 solution) by intramuscular injection every 3 or 4 hours and ephedrine sulphate (gr. ⅜ or gr. ½) by mouth 3 or 4 times in 24 hours.

Congestive Heart Failure

Coronary artery disease often results in the gradual development of symptoms and signs of congestive heart failure instead of the more dramatic episodes of angina pectoris, coronary thrombosis, cardiac asthma or Adams-Stokes seizures. Treatment does not differ from that of myocardial failure due to other types of heart disease and consists principally of absolute rest in bed, the proper administration of digitalis, sedatives, and diuretic drugs, restriction of the fluid intake, and, less often, venesection and the mechanical removal of fluid from the thorax or abdomen.

Summary

The most common manifestations of coronary artery disease are angina pectoris, coronary thrombosis, cardiac asthma, the Adams-Stokes syndrome, and congestive heart failure. The treatment of each of these conditions has been summarized.

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Evaluation of Methods for Immunization*

By EDWARD B. SHAW, M.D.
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In the latter half of the nineteenth century the treatment of diphtheria with antitoxin was so conspicuously successful that there was kindled the hope that many, if not all, of the infectious diseases might be controlled by the use of specific antiserums. This hope continues but still falls far short of attainment, thus far no disease having yielded to the use of a specific serum with nearly the success encountered in diphtheria.

Mankind has long recognized that immunity is usually conferred by an attack of a communicable disease. For 125 years protection against smallpox has been accomplished by the production of a mild form of the disease. During the last 25 years it has been demonstrated that protection against diphtheria can almost unfailingly be secured by the injection of a harmless agent, without the production of any active disease. This has led to the hope that many or all communicable diseases may be controlled by similar measures which have rapidly been introduced in accord with an idea that other diseases may thus be controlled as effectively as diphtheria.

It is my belief that just as we have failed to achieve equal success in the treatment of disease by methods analogous to diphtheria antitoxin treatment, that what we know about diphtheria prevention cannot easily and instantly be employed for the prevention of other diseases. Let us examine what we know about diphtheria prophylaxis, the considerations which make it an ideal preventive, and then compare and contrast similar methods in use with other infections.

Best of all prophylactic procedures, immunization with toxoid complies with three considerations of utmost importance. These are: 1. safety, 2. usefulness, and 3. effectiveness.

Safety of medication is of great importance when applied for prevention and not for treatment of disease. In the treatment of disease we may justifiably assume risks which are not disproportionate to the seriousness of the disease. Many therapeutic measures are not without certain risks, for example—arsphenamines, transfusion, the use of immune horse serum, sulfanilamide, etc., are all attended by dangers which are compensated for by the risk of active disease. We cannot, however, assume commensurate risks in the prophylaxis of disease. Children present themselves for prophylaxis in perfect health at a time when the danger of infection may be relatively small and the production of dangerous reactions is not under these conditions a justifiable chance to take.

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*Read before the fifty-fourth annual session of the Mid-South Postgraduate Medical Assembly, Memphis, Tenn., Feb. 10, 1939.

Diphtheria toxoid can be administered with minimal adverse reactions, especially when properly applied early in childhood. In older children and in adults unpleasant reactions are sometimes produced but these serve simply to emphasize the necessity of applying toxoid in infancy, thus assuring the minimum of reaction as well as a maximum degree of protection during the years of greatest hazard. One might disgress to point out that campaign of immunization in school should emphasize that the child **should have been protected** against diphtheria well before school attendance and that immunization against diphtheria in the earlier grades should be carried out only to catch those who had not properly theretofore been immunized. Immunization against diphtheria in infancy is almost the ideal—within the limits of human error—of perfect safety.

USEFULNESS: Diphtheria is still a serious disease and, in my own state of California, accounts for some 2000 cases annually with a 10 to 15% mortality. The mortality of diphtheria cannot be much reduced below this 10 to 15% mortality. As a matter of fact it was this failure of therapy in the disease which pointed the necessity of control through immunization, with the application of the knowledge gained in the immunization of horses directly to the immunization of children. The seriousness of the disease more than merits the very slight risk, discomfort, and expense of immunization.

EFFECTIVENESS: The factor of effectiveness of immunization is hardest to evaluate. It is obviously impracticable to subject a group of supposedly immunized patients to inoculation or to deliberate exposure to test their immunity.

In diphtheria prophylaxis we enjoy one advantage in contrast to all other forms of prophylaxis in that the immunity of the patient may be estimated simply and fairly accurately by laboratory procedures. The Schick test was originally supposed to indicate the presence or absence of more than 1/30 unit of antitoxin per cc. of blood and this amount was supposed to afford an effective immunity. More recent results have shown that a negative Schick reaction may indicate the presence of a much smaller amount of antitoxin than was previously thought to be necessary, as little as 1/100 unit or less per cc., but it is at present our best evidence of a clinically effective immunity which corresponds less to the amount of circulating antitoxin than to the capacity of the patient to produce antitoxin in response to exposure to the toxin. It is important to remember that even though this artificially produced immunity is at present the best demonstrable immunity it is not evidence of an iron-clad security from attack, for many factors affecting the patient and his environment may influence his degree of protection at a given moment.

It is possible not only to demonstrate the patient's immune response by means of the Schick reaction but it is not especially difficult to measure the amount of his circulating antitoxin by simple laboratory tests, a measurable immunity which is in contrast to conditions in most other forms of disease prevention.

The common concept of diphtheria immunity is that this is entirely antitoxic. This must be largely true but I am sure many of you have seen cases of low-grade nasal diphtheria in which the patient had a negative Schick test, in which he showed no sign of intoxication from a chronic active infection, but in which definite symptoms of inflammation rapidly subsided after the administration of antitoxin. Even in diphtheria, therefore, in which we feel we know nearly the whole story of immunity there must operate certain factors not entirely comprehended by our existing philosophy.

It is important to remember that, in spite of all the evidences afforded by the Schick test and by antitoxin titration regarding the patient's actively induced immunity, the final proof of the effectiveness of diphtheria immunization has been afforded only by a great amount of accumulated clinical experience. For all that could be told by laboratory studies, the patient's serum immunity might not afford any actual protection in the face of clinical exposure.

The proof of effectiveness of protection by the comparison of the results of naturally occurring exposure in groups of immunized and non-immunized individuals is a gigantic problem. There are innumerable variables in a human experimental series. One of the chief of these variables is the subject, for groups of human beings do not afford the same degree of homogeneity encountered in guinea pigs or rabbits. The immune state of an individual is undeniably complex and it cannot be assumed that the presence or absence of artificially induced immunity is by any means the only factor which influences the likelihood of attack. Some patients are naturally extremely susceptible, others are resistant to immunization, and, on the other hand, natural immunity accounts for the protection of many apart from artificially induced immunity. Nor is resistance to infection wholly dependent on specific immunity, for tissue barriers limit infection independent of an immune mechanism. It is not unlikely, furthermore, that some patients who are not immune to a certain disease may still be altogether insusceptible to it, a sort of resistance comparable to the insusceptibility of a dog to measles or of a human being to distemper, having nothing to do with specific immunity. The occurrence of other infections, the nutritional state of the patient, certain factors, environmental and otherwise, which affect the immune mechanism of the individual all combine to increase the complexity of an experimental group of human beings.

Conditions of exposure also strongly affect the make-up of an experimental study group. These factors include social conditions, the age of the patients in the series and especially the intensity of exposure. The influence of exposure dosage is a factor not commonly taken into account in the study of resistance to infectious disease. It is not at all unlikely that many patients who are effectively protected against ordinary exposure might fail to be protected in conditions of intense and intimate exposure and huge exposure dosage. It should be noted that a general lowering of morbidity of most of the infecious diseases has been generally seen for the last several decades. This lowered incidence of infectious disease is commonly credited to better living conditions, better public health measures including reporting, quarantine, and isolation. the influence of measures of specific prevention, etc., but this same period of American history has significantly been accompanied by a steady decline in the number of children in the average home. Not many years ago the presence of a communicable disease in the home usually entailed the intimate exposure of five to ten sisters and brothers and each case of communicable disease almost inevitably resulted in several secondary cases. When each home consists of one or two children the cases of communicable disease do not thus provide intimate exposure to so many susceptible individuals. Contacts outside the home are apt to be much less intimate and exposure can thereby be greatly reduced. This factor is of importance in our consideration of many communicable diseases.

The organisms to which patients are exposed also influence the attack rate. The same organism may vary from time to time in virulence and factors favoring the production of disease. These vary from year to year and from epidemic to epidemic.

In order, therefore, to arrive at an estimate of the effectiveness of immunization by the study of the spontaneous occurrence of disease in a series of vaccinated and unvaccinated patients, the number observed should be sufficiently large and adequate in all respects to account for the variables incidental to the complexity of the potential immune state of the individuals comprising the group as well as the environmental, seasonal, and unpredictable biological factors affecting the relationships between host and parasite. This sort of study should comply with several prerequisites: (1) large groups both vaccinated and control and of similar number must be selected for comparison; (2) the morbidity in the control group must be significantly high; (3) investigations must be carried out in the same locality and at the same time; (4) only large deviations between vaccinated and control groups are significant; (5) statistical material must be above reproach. The accumulated experience of twenty years has demonstrated statistically and nearly conclusively that diphtheria immunization does actually protect against the occurrence of the disease. All of the facts are not in and there are still those who are not willing wholeheartedly to subscribe to the complete effectiveness of immunization but the available data presents far more convincing evidence of its value than can be produced for any other disease with the possible exception of smallpox.

One factor which influences the success of diphtheria immunization is commonly left out of consideration and is one which further illustrates that this procedure is more or less unique among similar methods. Adult immunity to diphtheria is the normal state and is not the result of clinical infection with the disease. It is commonly believed that this immunity results from repeated subclinical exposure. When the immunity production of the child is stimulated with diphtheria toxoid we simply accelerate and to some extent imitate this normal mechanism of immunity production. As the child progresses through life the natural method of immunization proceeds to enhance and reinforce the artificially stimulated immunity.

If we are correct in assuming that the natural method of immunization is the result of repeated small exposures, the lowering of the incidence of diphtheria produced by immunization may cut down the number of exposures and thus interfere with this natural mechanism. It may be necessary in the future, therefore, to do as has already been suggested by some observers and artificially stimulate immunity production from time to time by the injection of a small dose of toxoid. It has been proposed by several authorities that immunization be done in infancy and that a subsequent Schick test be done at the age of first school attendance with the use of additional doses of toxoid if necessary for the stimulation of immunity.

In diphtheria immunization we have accordingly defined almost the ideal of artificial immunizing procedure. The method is safe, it is **useful** in protecting against a serious and highly fatal disease, and it is demonstrably highly **effective**, the effectiveness can be proved both by laboratory tests and clinical observations. If we accept this method as the ideal procedure of its kind we may safely use it as a basis for comparison of similar methods designed for protection against other communicable diseases.

SMALLPOX

How about smallpox vaccination? The greatest advantage in the study of this method is afforded by 125 years of experience since it was first introduced. The safety of this method is not unquestionable. It is not infrequently unpleasant and serious or even occasionally fatal, especially by the production of encephalitis. Considerations of safety are somewhat outweighed by the usefulness of vaccination regarding which there should be little question. The usefulness of vaccination is not nearly so great today, however, as in times past when smallpox entered every home and when deformity and death from it could be seen on every hand. Likewise, effectiveness cannot be nearly so well studied today in America as in times past or in places where epidemicity and virulence are great. Under any conditions, however, effectiveness must be regarded as only a relative term. Smallpox vaccination has been shown to afford a considerable degree of effectiveness which can be interfered with by the virulence of the disease, by the exposure dosage and thus by conditions which prevail in great epidemics.

On the basis of our present knowledge one is inclined to claim a great deal more for diphtheria prophylaxis than for smallpox vaccination except that we have no treatment for smallpox should it occur. I feel that in our country at the present time diphtheria toxoid must be regarded as a more valuable agent than vaccine virus.

SCARLET FEVER

In scarlet fever the temptation is to compare this disease too closely with diphtheria whereas the contrasts between the diseases are more striking than the similarities. To be sure, both diseases result from throat infection with systemic effects which are the result of intoxication. The diphtheria bacillus, however, produces its effect on the body almost entirely by virtue of its free toxin while the streptococcus is capable of a degree of invasive activity, whatever this is, which is a decided contrast.

The injection of several increasing doses of scarlet fever toxin, five or more doses being usually necessary, will usually produce immunity to the toxin of the scarlet fever streptococcus. This immunity may be demonstrated by a negative Dick test and is attended by a relatively lowered incidence of clinical scarlet fever among the immunized. Immunization with Dick toxin is relatively safe but it must hastily be admitted that observers have generally reported reactions of much greater intensity than are commonly seen with diphtheria toxoid and these reactions, while they are not definitely unsafe, are certainly unpleasant and disadvantageous. The usefulness of scarlet fever immunization varies in different communities, depending on the seriousness of prevailing scarlet. Immunization is accordingly somewhat less useful in the South than in the North and in the East than in the West and there are parts of the earth in which the prevailing seriousness of the disease is such as to afford a much better opportunity finally to evaluate the success of this measure. The usefulness is also somewhat proportionate to the duration of immunity which in scarlet fever is much more uncertain and unreliable than is the case in diphtheria. The effectiveness of scarlet immunization offers considerable grounds for discussion, immunity to the rash-producing toxin probably paralleling resistance to other toxic factors of the disease. The Dick negative patient still remains susceptible to many of the disease producing activities of the scarlet streptococcus. I am sure you have all seen cases in the family of a patient with clinical scarlet fever who never developed a rash and were presumably Dick negative but who developed severe streptococcus throat infections and a variety of complications equally as severe as the usual case of scarlet fever. This raises the unsettled question whether immunization with Dick toxin produces only the capacity not to develop a rash, leaving the patient still susceptible to some degree to the scarlet fever streptococcus and capable of developing streptococcic throat infections in which there is great difficulty of diagnosis, a distinct, although perhaps lessened tendency to complications, and the same risk of producing scarlet fever in contacts as clinical scarlet fever. The views of different observers are widely divergent; we have all heard discussions from these different points of view. I do not believe that anyone can settle the question at this moment but it is my opinion that the problem of scarlet fever, does not closely parallel diphtheria and that scarlet fever immunization with Dick toxin, whatever its precise values, must be relegated to a much less satisfactory status than obtains for diphtheria. The prevention of diphtheria is widely accepted as a sound public health procedure, but the specific prevention of scarlet fever is not equally acceptable for general application in public health or private practice.

PERTUSSIS

For many years the accumulated data on the use of pertussis vaccines have in great part demonstrated only their absolute ineffectiveness in controlling symptoms after the disease has begun and in producing immunity when injections of vaccine are given during the incubation period. In recent years vaccines have been produced in which attention to certain factors of freshness, virulence, antigenicity, and dosage have been productive of superior immunizing power and which are recommended for use before first exposure. The use of these vaccines is relatively safe. It is necessary to apply them during infancy; commonly in this age group severe reactions are not produced although there is at least a minor hazard in the injection of heavy suspensions of particulate matter and the production of an occasional serious reaction should be expected. There is no reason to doubt the usefulness of an effective immunity to whooping cough; the disease is one of the major hazards of childhood and produces long continued disability, complications, and deaths. The effectiveness of protection is extremely difficult to establish and widely varying discrepancies in the reported experimental groups may be accounted for entirely by the difficulty of controlling the variables which beset such experimentation. Whooping cough is a highly fatal disease only in infancy; it is much less fatal among the children commonly seen in private practice than among the ill-fed, ill-housed, and neglected. One of the chief difficulties in the way of complete success of protection through immunization lies in the fact that in order to avert the most serious attacks, protection must be secured early in infancy; young infants are, however, poor immunizers and it is probably not wise to attempt immunization with vaccine before the sixth to ninth month. The production of immunity is slow, and effective immunization is not secured for several months. This accordingly leaves the infant unprotected during most of his first year and reduction in morbidity and mortality in infancy can be secured, if at all, only by the protection of slightly older siblings. Very little can be said about the duration of immunity but it must be remembered that immunity naturally results only as the result of a clinical attack; adults are immune only if they have had whooping cough. Even with a previous history of attack the immunity is far from complete and second attacks are common in everyone's experience. The pertussis organism is a relatively poor antigen. There is no evidence of a natural mechanism, such as prevails in diphtheria, for the maintenance of immunity. It seems doubtful that a permanent or even semi-permanent immunity can be produced by vaccination against pertussis and many of us would not care to repeat immunization annually. The proponents of this measure have produced evidence to support its usefulness sufficient to cause most of us to feel that it is worthy of trial but it cannot be expected as nearly equaling the value of diphtheria toxoid. We should take care not to claim too much for it lest we have much to take back.

TETANUS TOXOID: Immunization against tetanus by the use of toxoid is a fairly recent proposal. Tetanus presents many parallels to diphtheria especially in the production of most symptoms of disease entirely by means of a soluble toxin and specific resistance is probably almost entirely antitoxic. It is engagingly probable that we can apply most of our knowledge of diphtheria prevention directly to the prevention of tetanus. I am sure many of you will agree with me in a dislike for giving prophylactic tetanus antitoxin. Horse serum reactions following this are the rule, rather than the exception, in my experience, and seem always to be more severe when the danger of infection is minimal. The initial injection of tetanus toxoid, like that of diphtheria, does not produce much antitoxic response but the response to a second injection of toxoid (or a third or fourth) will usually produce a considerable amount of circulating antitoxin. When primary immunization is over no constant stimulation to immunity is maintained, as in diphtheria, but following suspicious exposure an additional dose of tetanus toxoid should be given which should dependably produce an immunity response capable of protection. It is my belief that the presumption of protection under these circumstances is equally as great as can be secured by the injection of tetanus antitoxin, for the latter does not unfailingly protect for a sufficient length of time. Best of all, immunization against tetanus can suitably be combined with diphtheria immunization without producing more severe reactions and without impairing the efficiency of diphtheria toxoid—concomitant immunization, in fact, seems to reinforce rather than retard the immunity response against diphtheria. We need to carry along this method cautiously and studiously but the opinion seems justified that it is worthy of increased application.

TYPHOID: Typhoid vaccination is relatively safe although it does produce unpleasant reactions. Last time I stopped after my own initial injection. The effectiveness of immunization is strongly supported by an accumulation of military experience which indicates that for a fairly short time effective protection is thus secured. The greatest objection to typhoid vaccination as a routine public health procedure rests in the matter of usefulness. Other methods of public health control in the sanitation of water and food supplies have been demonstrably far more useful in the control of the disease in civil practice than the widespread use of typhoid vaccine. The necessity for protecting a civilian population under ordinary circumstances by periodic immunization against typhoid is a pathetic commentary on other and simpler public health measures in the community.

TUBERCULOSIS

A succession of efforts has attempted the production of immunity against tuberculosis by vaccination. In the past most of these attempts have been discarded as ineffective. The current agent for this purpose is B. C. G. which consists of a suspension of living but attenuated tubercle bacilli. Very little is known regarding the mechanism of immunity to tuberculosis, in fact it may seriously be questioned if there exists an immunity to this disease comparable to the other conditions we have just reviewed. The injection of B. C. G. seems to be relatively safe in that it does not produce progressive disease but considerations of its safety must be studied with respect to divergent opinions regarding its manner of action and effectiveness. Injections of B. C. G. produce an altered response to tuberculin—the Mantoux reaction becomes positive. One school of thought holds this to be evidence of immunity and increased resistance to infection. A contrary view, which I wish to support, regards the increase in skin sensitiveness as purely evidence of altered reactivity which, far from indicating immunity, demonstrates an increased susceptibility to the destructive effects of the tubercle bacillus. Until there is available more precise knowledge of the exact nature of the immune mechanism in tuberculosis it will be difficult to defend the safety and effectiveness of B. C. G. on theoretical grounds and only another generation of careful study will produce adequate statistical evidence of its value.

The most cogent objection to our use of vaccination in the control of tuberculosis, however, lies in the fact that other methods of control through detection and segregation of cases, the improvement of environment, sanitation, and nutrition are demonstrably so valuable as to suggest emphatically that vaccination is not our present most potentially useful manner for control. In this country we should continue to explore further these proved methods before we hastily adopt immunization as an approved procedure.

POLIOMYELITIS

Several methods for specific vaccination against poliomyelitis have been proposed. Theoretical arguments for their value rest on a most insecure knowledge regarding the immunity mechanism in this disease and there is no positive evidence that the induced presence of demonstrable antibodies indicates certain resistence to clinical attack. Because of the extremely low attack rate, the statistical evidence of effectiveness is most inconclusive and discouraging. Whatever the potential value of vaccination against poliomyelitis, there have been disturbing evidences of danger in the injections of most of the vaccines advocated. Protection against poliomyelitis, if it could certainly be secured, would undoubtedly be most useful but the dubious status of immunization with regard to safety and effectiveness militate strongly against adoption for current use.

RESPIRATORY VACCINES

The use of mixed respiratory vaccines for protection against "colds" rests on no such secure immunilogical concepts as the use of diphtheria toxoid. It cannot be denied, however, that they are currently used by many physicians who believe that they are of some value in protection against frequent respiratory infections. Whatever their value, it cannot possibly be argued that the effect depends on the production of specific antibodies against the organisms injected and their use should not be defended on the basis of specific immunization. Injections are relatively safe, unpleasant reactions are most common. It is almost impossible to defend, on secure grounds, their usefulness or effectiveness. I believe most of us who are not ultra-scientific use them sparingly and it is my conviction that thereby we somewhat reduce the incidence of repeated respiratory attacks, especially those which proceed from an obscure allergic cause. These patients seem to improve sometimes from almost anything which is injected into them. If this is true the benefit probably proceeds from a nonspecific stimulation of the immune mechanism or from an indefinable alteration in the allergic state.

CONCLUSIONS

If one agrees with the foregoing the following conclusions will be acceptable:

Diphtheria immunization, which closely conforms to the natural mechanisms of immunity production, and which closely complies with considerations of safety, usefulness, and effectiveness, is almost the ideal of methods for the production of artificial immunity.

Smallpox vaccination, by comparison, is somewhat less safe, somewhat less effective but at least equally useful.

Immunization against scarlet fever produces more unpleasant reactions but is adequately safe, is distinctly less effective and decidedly less useful than diphtheria toxoid.

Pertussis immunization is about equally safe, its effectiveness cannot be accepted with equal assurance, but its usefulness, insofar as it is effective, is great.

Tetanus toxoid appears to be an equally safe agent, its effectiveness has not been so conclusively demonstrated and its usefulness is considerably less.

Typhoid vaccination, which is relatively safe and to some extent effective, is notably less useful in civilian practice.

Tuberculosis vaccination (B.C.G.) is relatively much less safe, useful, and effective than toxoid.

Immunization against poliomyelitis cannot be approved as safe, useful, or effective.

Respiratory vaccines cannot be defended on similar immunological grounds with diphtheria toxoid.

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The Public Health Aspects of Syphilis Control*

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WHEN I began to address myself toward the subject of my remarks this afternoon I felt a bit like the famous Minnesota lumber-jack, who, after a disastrous barroom brawl concluded, "Well, I think I took in too much territory." So perhaps I, too, took in too much territory in undertaking so ambitious a discussion, but I hope I may justify myself by virtue of a deep interest in the subject and a certain amount of experience to which that interest has led. The major premise which I wish to expound is that every physician who deals at all with patients with syphilis must, in part at least, be a public health officer, and of that particular point I especially want to convince you this afternoon.

Why is it that syphilis should be considered a public health program? In general a disease is considered a public health problem when it is communicable, or when it is particularly serious, or when its implications are so far reaching that its proper care involves more than can be managed by the affected individual or his family—I am thinking particularly of tuberculosis, mental disease and leprosy. Prevalence or incidence alone, as in the case of chicken-pox, also may make a disease a public health problem, even if it is not in itself serious.

Syphilis meets almost every one of those qualifications for a disease to be considered as a matter of concern to the public health. In the first place it is extremely serious. There are, however, infectious diseases which will match or excel it in seriousness, but they usually are of short duration, as for instance, the disease which occupies the latter part of the program—lobar pneumonia, which with few exceptions runs its course to recovery or a fatal issue within a matter of sometimes a few days, and seldom more than a few weeks, even with complications. On the other hand, syphilis practically never does anything deleterious to the infected individual within the first few years of the infection, and yet the two diseases are quite comparable both in prevalence and severity.

Syphilis is a prevalent disease. It is estimated as accurately as such things can be estimated that approximately 10.5 per cent of the adult population either have or will have syphilis. There has been a great deal of unnecessary misunderstanding about that statement, most of which is based on lack of understanding of the statistical methods by which it was derived. These do not concern us.

Not only is syphilis a prevalent disease, but its incidence actually is not decreasing in this country at the present time. I cannot give you figures for Mississippi, but for the country as a whole in 5 years, the incidence of new cases has risen from 5.1 to 5.4 per 1000, a small, but quite significant increase. These new cases represent fresh infections and not newly discovered old cases and are derived from studies which are statistically a cross-section of the country as a whole.

Syphilis, therefore, is on the increase, and at the rate for the country as a whole would mean that approximately 11,000 to 12,000 new cases—not newly discovered cases, but new infections with syphilis are occurring in Mississippi each year. There is no reason to believe that Mississippi has less syphilis than the national average. In its prevalence, therefore, syphilis is an important disease from a public health standpoint.

The seriousness of syphilis, without treatment, is difficult to estimate because of the very nature of the case, but certainly the mortality from untreated syphilis eventually may approach 25 to 50 per cent. Twenty-five per cent is the basic minimum of morbidity and the mortality rate for untreated syphilis certainly is as much as 10 per cent. Insofar as mortality and morbidity are concerned I was forcibly reminded when Governor White was speaking of the situation in your state institutions, that in your state hospitals for the insane, approximately 11 per cent of all admissions are there specifically because of general paralysis of the insane, which is caused by syphilis and by nothing else. In this climate where the incidence of rheumatic heart disease is relatively low, 15 to 20 per cent of all your serious heart disease is due to syphilis.

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*Read before the Section on Hygiene and Public Health at the seventy-second annual session of the Mississippi State Medical Association, May 9, 1939, Gulfport, Mississippi.

Now all of that is important. You have either heard or read these statistical figures over and over again, and as a matter of fact, the facts and figures are so old that they are somewhat losing their significance by too much reiteration, and yet it is difficult to see how we can avoid it, because as yet nothing has been done about it.

Mississippi is not alone or individual in that, and like other states is taking steps, but the medical profession—and don't slough the responsibility off anywhere else—has had for more than 25 years all of the necessary information, all of the necessary equipment completely to eradicate syphilis as a disease, yet syphilis is on the increase.

Something must be done about so important a disease, and the doing of it is really the reason that syphilis must become a public health problem, because by no other means will it be possible properly to organize the necessary facilities for syphilis control.

There are numerous complications in the way of any control program. The first and most important one is the problem of publicity, which is beginning to be solved, yet still is difficult. For instance, in some of the more remote districts where patients cannot get to a treatment center, a beautiful solution seemed to be to buy a trailer, equip it properly, hook it to the county health officer's automobile two or three times a week and go over the country. The only trouble is that many patients will not come for treatment. Patients who will report to the clinic in the neighboring town where they were not known, many times will not come to the trailer when it is parked in the road.

But the publicity angle makes any control program extremely difficult, and is going to do so until we educate ourselves first, and then the public second, to a really serious belief in the slogan that syphilis is a disease and not a disgrace. You remember I said educate ourselves first, because if there ever was a situation in which the physician must heal himself it is in regard to an intelligent attitude towards the patient with syphilis. Syphilis is not to be controlled if we are going to continue to regard it as a visitation of mortal sin.

In the second place, in the development of control measures applicable to syphilis, the standard routines which public health officers have developed during past generations are not applicable. The quarantine, for instance, was one of the earliest measures. Where are you going to quarantine 120,000 new cases of syphilis a year?

Destruction of vectors, such as were used in malaria control and control of typhoid fever, cannot be used. There are no vectors; syphilis is transmitted by direct contact, and by no other means, and there as yet have been no vaccines or serums which will offer protection against the disease. In addition it is perfectly obvious that there would be a huge outcry against anti-syphilis vaccination if such a measure were developed.

But there has been developed a method of syphilis control which works better provided it is properly applied, and that is the treatment of the individual because there is no other comparable situation in public health control. The patient may be rendered completely non-infectious within a maximum of 24 hours, and kept that way permanently by the simple method of early, continuous prolonged treatment.

Now there is the answer to our problem today of infectious syphilis, and by so doing we will eliminate new cases of the disease overnight. A beautiful belief, because the great problem that arises there is to find syphilis. The famous old recipe for rabbit pie that I like to quote is, first catch your rabbit. You can't treat infectious syphilis unless you can get it into the doctor's office or into the clinic for treatment early, and that is difficult for a number of reasons, not the least of which is because the disease is so frequently occult. Quite apart from the natural human tendency to neglect a disease which is not causing devastating illness at the moment, actually many patients, especially those who are under-privileged, actually can have syphilis without knowing about it, because early syphilis seldom makes people sick. The rash does not itch, the primary lesion may be in the vagina, and it makes the disease occult as the patient does not know she has syphilis. How is she going to be brought in for treatment? The answer to that is one of the simplest problems in all of public health preventive medicine, and yet has been applied much more slowly than any other type of disease control, and that is individual case finding. You cannot use mass methods in either identifying or treating patients with syphilis. Individualization is required and it is required just as much in case finding as it is in case treatment. There are numerous methods of case finding of course, but the most fruitful, and the one which I urgently beg each one of you to adopt, is to be your own public health officer and trace the contacts of patients with syphilis. When a lad comes into your office with a penile sore he may have to name six different contacts to be sure of getting the one who is responsible for his infection but he can tell you where he got it, and it is your business to find out. When you see a case of infectious syphilis you know there are at least two cases of syphilis in your community—there is the one before you and the person from whom he got it. The physician is just as morally obligated to find that contact or see that the contact is found by the proper agency as he is to take proper care of the lad who is standing before him, and there is no more fruitful method for finding infectious syphilis and treating it, than that, because fresh infections with syphilis do not occur in any given community at a uniform rate. Syphilis is a disease of small localized epidemics; it does not exist until an outsider infects someone of a local group in which the contacts necessary to transmit the disease are occurring, and then splash! There are a whole half a dozen or eight or ten new cases, all of which may be traced from one individual, yet only one out of the whole group presents himself for treatment.

Now in every situation the circumstances are different. If the contact has been a very casual one, especially if the community is large, perhaps the contact investigation can better be done by the health department than by the physician. In smaller communities where the physician knows all the boys and girls involved he is the best person because he can do it quietly without exciting suspicion.

Contact investigation is the method of syphilis control which must be employed if any control program is to be effective, and it has got to be initiated by the person who sees the original case with early syphilis.

There are other types of case finding which are simpler—routine seriologic tests, for example—but let me leave with you the fact that contact investigation is a most fruitful source of syphilis control.

To go back and carry on the line of thought we were developing—treatment of the infectious cases—we must find them. But when we get these six or eight new cases of syphilis that have all originated from a single sower then we are indeed confronted with two very important problems which pertain particularly to any well-rounded syphilis control program. The first one of these is that the disease runs a course measured in terms of a lifetime if it is not treated, and the second is that in the early stages it is a disease of the dependent, whose difficulty is two-fold: his youth and his economic status. The treatment for syphilis is expensive. In the average clinic practice it costs about $100.00 to treat a patient with early syphilis properly. In some clinics it may go up as high as $300.00, which is beginning to approach a level which can obtain private care. Under the very best management it cannot be driven below about $75.00. That is expensive to the youngster who has his first job at a few dollars a week, and is particularly expensive if he belongs to the low income group with a poor economic status from the very outset.

Now, I do not have to develop for you any thesis regarding the responsibility of the state for assisting in the management of important diseases which for one reason or another are beyond the management of the individual himself. We need only to look toward our mental hospitals, or sanatoria for tuberculosis, hospitals for crippled children and so on to see quite clearly that the state has long since recognized its responsibility in caring for certain types of diseases which are beyond the reach of the individual.

Why there has been so much talk about the syphilis control program serving as an opening wedge for state medicine, I do not know. There is no reason why existing methods under the control of our established medical profession cannot be developed to make a proper syphilis control which is suited to the needs of the given community. Those needs will be different; the type of solution will be different in every community, but it need not be feared. And I think it is being just a little bit silly to fear that there will be any insidious grasping of control of the medical profession by way of the syphilis control program.

It is necessary to develop the control program for the treatment of persons with syphilis because in the average community not more than one-third of those patients are able to pay a doctor; perhaps half require treatment either free or so nearly free that their contribution cannot be counted.

There is one point that needs emphasis—the physician is charged with the responsibility of determining whether or not his particular patient is eligible for free or part-pay care. In determining that factor, a thing which many very able physicians are apt to overlook is that the patient who can perfectly well pay a minimum fee for one or two office visits is by no means able to pay that same fee weekly for the 15 to 18 months required to treat his syphilis properly.

In addition to all the humanitarian and strictly medical aspects of this problem, there is one particular aspect of the necessity of controlling syphilis which has always impressed me, and that is the cost; not the cost in human suffering, not the waste of that intangible thing we call human morale, but the cost in dollars and cents. It was worked out a few years ago for the city of Baltimore. For the year 1934 the taxpayers of Baltimore, in direct outlay for hospitalization or immediately associated factors such as laboratory service for the care of patients who were hospital cases of syphilis, spent $178,000. which is almost two cents on the Baltimore tax rate. For that group of patients it was estimated that proper treatment for early syphilis and therefore prevention of these late effects, could have been purchased at an appropriate time for approximately $25,000.00. In other words, during that one year because we had been so lazy about syphilis control we spent $153,000 unnecessarily.

Up to this time everything I have said has implied that if the necessary administrative facilities could be provided, and if the necessary change in attitude of profession and public could be gained, that we could take for granted the competence of the medical profession in treating syphilis. Gentlemen, I am sorry to say that that implication is entirely unfounded.

There are two things that will make me raise an eyebrow at the doctor. One is to hear a doctor say, "I haven't seen a case of syphilis in 20 years." That makes me feel very sorry for him, because he either is not practicing medicine—and I think a man who is deprived of the practice of medicine is deprived of something very real and very great—or he does not know syphilis when he sees it.

The other thing is to hear a man say in response to the question, "Can you treat syphilis," say, "Oh, sure," because as a matter of fact there aren't very many people who could make that answer to that question. The only intelligent answer a good doctor has is, "I can treat some forms of syphilis; there are certain types I would rather not accept the responsibility for if I can avoid it."

We need doctors who have special training in syphilis control. The majority of patients with syphilis can be treated quite properly by any man who can hit a vein, but there is necessity in any control program to recognize that there are individual cases which will require expert advice. And in order to have expert syphilis control, some provision must be made for the doctors to have a local set-up suited to the needs of the particular community.

And finally, it is well to remember that with the utilization of this experience, however, the physician should guide himself entirely by the principle that a patient with early syphilis must be treated by routine unless there is some extraordinary reason why he should not; the patient with late syphilis should not be treated by routine if there is any way to gain an idea of his particular needs and his situation.

The History of Suspension Laryngoscopy and Bronchoscopy*

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THE DISCOVERY of indirect laryngoscopy by Manuel Garcia was hailed as an epochal event in the history of laryngology. Heretofore the method for the removal of growths occurring in the larynx consisted of blindly grasping and pulling with forceps. To Lewin, von Brunson or Walker is due the credit and honor for the removal of the first tumor of the larynx by the new indirect method of mirror laryngoscopy. Hours of practice and training for the development of skill and dexterity was necessary on the part of the doctor, while patience and tolerance had to be developed in the patient before the successful removal of small growths from the vocal cords could be accomplished. While a goodly number of laryngologists developed an amazing amount of skill in the technic of indirect laryngoscopy, it was definitely realized that a better method of approach to the larynx must be developed if laryngology was ever to be placed on a truly scientific basis. It is surprising to know that for a period of over forty years indirect laryngoscopy was the only method used for the examination, treatment and surgery of the larynx. During this period of time much experimental work was carried on with the hope of finding a better approach to the larynx and finally in 1895 Kierstein, of Berlin, first saw the inside of a larynx without the use of a mirror. He obtained an excellent direct view of the hypopharynx and larynx by using a hook and spatula which he had devised. This laryngoscope can best be described as closely resembling a tongue depressor with an elongated handle ending in a curve or hook. With the patient lying on his back and head extended, the spatula was introduced along the dorsum of the tongue, engaging the epiglottis, while upward traction was made exposing the larynx. Gustave Killian, of Vienna, manifested much interest in this new instrument. Using this new method Killian exposed the larynx of a cadaver and an artist was engaged to make drawings. The exposure of the larynx was easily accomplished, but Killian, holding the spatula, tired quickly and was forced to devise an apparatus which could be attached to the table and would support the hook of the spatula. This was accomplished and the results were such that Killian conceived the idea of suspension laryngoscopy. Beginning with the year 1909 much experimental work was done by Killian, who was aided by Albrecht and the suspension laryngoscope was presented to the laryngologic world at the International Laryngological Congress in Boston in 1911. At best it was a crude instrument, but one which intrigued and fascinated a young American laryngologist. Robert Clyde Lynch immediately recognized the possibilities of this new laryngoscope and he determined to perfect it. How well he accomplished his purpose may best be determined by quoting from Phillips: "While it is to Killian we owe the discovery of suspension laryngoscopy, it is chiefly to Lynch, of New Orleans, that we are indebted for the perfected instrument of today."

Killian's presentation of suspension laryngoscopy in Boston created much interest among American laryngologists and a review of the literature shows numerous articles by such men as Arrowsmith, Beck, Chamberlain, Freudenthal, Iglauer, Pollock, Skillern and Lynch. All were enthusiastic with the new laryngoscope and with the results obtained. It seems, however, that Lynch was one of the few who became interested in perfecting this new laryngoscope so that it could become a more practical and useful instrument. He worked continuously until he had perfected the suspension laryngoscope, and in 1915 he presented the results of his experimental work. This subject formed the basis of his candidate's thesis to the American Laryngological Society. Throughout the remainder of his life Lynch was an enthusiastic advocate of suspension laryngoscopy and never used any other method for the direct examination of the larynx. This one laryngoscope served his purpose both for children and adults and he was such a thorough master of its technic that few cases ever presented any difficulty.

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*President's Address—La.-Miss. Ophthalmological Society, Fourth Annual Meeting, May 8, 1939, Gulfport, Miss.

It is interesting to note that as the years went by the enthusiasm for suspension laryngoscopy dwindled and it has been my observation that in the past ten or fifteen years very few men continued using this method for the direct examination of the larynx. This fact was more forcibly impressed upon me when in 1933 I presented my first pictures of the larynx at the Academy meeting in Chicago. In commenting on the remarkable view of the larynx presented, many of the men inquired as to the method of laryngoscopy used. When informed that suspension laryngoscopy had been used exclusively, several of the men manifested surprise and stated frankly that they thought the suspension laryngoscope had been discarded as an antique instrument. They were amazed to know someone was still using this method for the direct examination of the larynx. So little mention has been made of suspension laryngoscopy in recent years that the younger men apparently know little of this method of direct laryngoscopy. Showing pictures of the exposures obtained by means of suspension laryngoscopy has done much to revive interest in this method.

There is no doubt whatsoever that suspension laryngoscopy gives the best direct view of the larynx and its structures. No other laryngoscope can give nearly as good a view, and the fact that both hands are free to be used as desired for intralaryngeal surgery is of tremendous advantage. Recently, a retention cyst the size of a lime was seen obliterating the left pyriform fossa and displacing the epiglottis so as to extend over a portion of the larynx, acting as a supra-glottic tumor. The patient had visited one of the large clinics in the country and was informed that this tumor mass could only be removed by a subhyoid pharyngotomy. Suspension laryngoscopy gave an excellent view of the tumor mass, which was dissected free and found to extend on the side of the larynx as far down as the level of the cricoid cartilage. Without the use of both hands it would have been impossible to perform this operation. I might relate many other such cases, including foreign bodies lodged either in the larynx or mouth of the esophagus in which suspension laryngoscopy was responsible for a successful operation.

The technic of suspension laryngoscopy has undergone some changes in recent years. The word suspension creates an erroneous impression, for the head of the patient is now never lifted off the table. Just enough upward tension is exerted to convert the curved tract extending from the teeth to the vocal cords into a straight line.

Suspension laryngoscopy gives an excellent view of the larynx while permitting both hands to be free for any intralaryngeal manipulations. The ease with which it is applied to both children and adults should make it more universally used.

To mention the various conditions in which suspension laryngoscopy excels would prolong the scope of this paper. Suffice it to say that no other laryngoscope permits so freely the use of both hands for any intralaryngeal manipulations, be it foreign bodies, cauterization, or surgery of the larynx.

Obstetrics of Today*

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ALL STUDIES of maternal mortality in the United States emphasize the danger of care by inexperienced and superstitious midwives, of whom there are 30,000 practicing today within our border. They deliver about fifteen per cent of all babies born throughout the country every year, but in some of the Southern states half of the babies first see the light of day under the ministrations of these practitioners. The activity of midwives in some communities is increasing due mainly to poor economic conditions and the unavailability of doctors in some rural areas. The average midwife, lacking technical and academic training, falls back on charms, rattle snake teeth, and her very limited experience when disaster approaches. Her response to the urgent local need is usually spoken of as her "call."

Efforts are being made at this time to improve the service rendered by midwives. Institutes are being conducted in rural communities where they are taught cleanliness, signs of danger and what to do when they appear, and the need of medical supervision. An effort is made to teach them the rudimentary techniques of delivery and care of the newborn baby.

Physicians in the South say, "The midwives are a necessary evil." If this is true we must go forward with a program of registration, regulation, and supervision which will safeguard mothers entrusted to their care. To improve this situation, some provision must be made for medical assistance and consultation in the prenatal period, and, if complications arise, at the time of delivery or during the puerperium.

The problems of improving our professional resources must begin with our medical students. They are the practitioners of the future and improved medical care in any field must depend on their education, ability, and training. At best, undergraduate medical schools can only lay the ground work for obstetrics and pediatrics.

The education of our medical students has been and still is totally inadequate to prepare them to be safe attendants during childbirth. The Council of Medical Education and Hospitals of the American Medical Association at their meeting in 1937 reported that "the teaching of obstetrics is at a lower level than that of the other major clinical departments. Comparatively few schools offer to their students an adequate practical experience under competent supervision." Inasmuch as the large majority of medical students will practice obstetrics, this represents a serious indictment.

The general practitioner delivers the vast majority of the babies and will continue to do so. Any extension of the present service to mothers and babies must include the family physician. It is thus essential that his education be continued and extended. The goal should be the development of a safe practitioner and not a specialist. It would be highly advantageous if opportunities were provided for frequent short periods of additional training. The refresher courses that have been in vogue in many of the states during the past few years are highly desirable and should be continued. They must, however, continue to be elementary. They are useful in helping to develop an appreciation of the specialty and in creating a desire on the part of the general practitioner to seek further and more adequate training. Furthermore, they are useful in helping the physician to keep abreast with advancements in medical science. Needless to say, a series of four or five lectures will not qualify the physician as an obstetrician, but they do help in clearing up many ideas and in inculcating a wholesome respect for the physiology of pregnancy and labor.

A questionaire on facilities for maternal care was sent to state health officers in the spring of 1937 at the request of the State and Territorial Health Officers Conference. Of 49 state health officers who replied, only 2 considered the facilities for maternal care in their states satisfactory. Forty declared the facilities to be definitely inadequate, 7 modified their statements by such remarks as "Care is inadequate for those who cannot pay" or "Facilities fair, resources inadequate," or "Adequate for medical care but not for delivery and nursing services." Questions with regard to the number of general practitioners of medicine who include obstetrics in their practice brought out the response that in 17 states there are not enough general practitioners doing obstetrics and frequently they are poorly distributed in the rural areas. They tend to concentrate in larger towns and cities where a living is made more easily.

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*Read before the Section on Surgery at the seventy-first annual session of the Mississippi State Medical Association, Gulfport, May 10, 1939.

It is well known, of course, that the maternal mortality is high in this country. In 1935, 12,544 women died. In addition, 1,752 other women who were pregnant or recently delivered died of conditions such as tuberculosis, chronic nephritis, or heart disease that may have been adversely affected by the pregnancy—making a total of more than 14,000 deaths of women associated with pregnancy of childbirth. In 1936 figures from the Bureau of the Census, show that 12,182 mothers died, giving for that year a rate of 57 for each 10,000 live births, or one point lower than in 1935. There are, of course, great differences in the rates of different states, ranging all the way from 91 in Arizona and 90 in South Carolina down to 40 in Rhode Island and New Jersey. If we look at individual counties we find an even wider range, from no deaths at all for a 5-year period up to a rate of more than 200.

What about the deaths of newborn babies? For years we have said that great progress is being made in reducing the death rate of infants during the first year of life, but we always have to modify our statement by saying that there has been little progress in reducing deaths of infants during the first month. And yet the deaths in the first month represent half of all deaths in the first year. Actually in 1937, nearly 70,000 infants died before the end of the first month of life, more than 56,000 of them from conditions directly connected with prenatal life or the birth itself. More than half of these early deaths are associated with premature birth. During 21 years deaths of newborn infants on the first day of life have not decreased at all.

Can these babies be saved? In all probability at least half the babies who die in the first month of life can be saved, if adequate care is given to both mother and baby. The same measures that will reduce maternal deaths will reduce these infant deaths. They will reduce stillbirths also. And if skillful care is given to the infant immediately after birth and during the first 2 weeks, great gains would be made.

It is estimated on the basis of 1935 income figures that there are approximately 840,000 births in families on relief or with total annual incomes, including home produce on farms, of less than $750.00. Six hundred and fifty thousand of these, or nearly one-third of all the births in the United States, occur in rural areas or in cities of less than 50,000 population; nearly 200,000 occur in larger cities. Raise the income level to $1,000.00 a year and there will be included approximately 1,000,000 births.

The magnitude of the problem of providing for even a part of these families is obvious. Many of them are being cared for today by their local family physician without pay; in some cases welfare departments now pay for delivery care; many of these women, especially those in cities, will be cared for in hospitals. There is still, however, a large group who get only partial care from a physician or nurse, or even none at all.

Can the mortality be reduced? Yes! Good community organization that will insure adequate provision for mothers and newborn infants implies (1) the existence of a good health department under the direction of a full-time health officer, with additional personnel commensurate with the needs of the community including those equipped to serve in the field of maternal and child health; (2) the cooperation and assistance of local physicians qualified to give the necessary care for mothers and their newborn infants and for all other members of the family; (3) the services of specialized consultants in obstetrics and pediatrics, and other branches of medicine; (4) public health nurses sufficient in number to carry a full maternal and child health program, including care at delivery; (5) adequate hospital facilities; and lastly (6) community resources to provide care for those in need.

The future of America rests with the generations yet to be born. Let us continue to strive for safer motherhood so that all our mothers and babies may continue to receive the best that medical care can offer for life more abundant.

DISCUSSION

Dr. H. F. Garrison (Jackson): I do not want to discuss this paper, but I do want to compliment Dr. Simmons on it. We need more papers like this on our programs all over the state. Good obstetrics is the most essential thing I know of today. Of course, in my line of work I naturally get end results, and would do what I can to get better end results. I do want to encourage and insist that the doctors all over the state read more papers like this, not necessarily before surgical sections, but in general assemblies. Dr. Simmons is doing a high class of work.

Dr. D. W. Jones (Jackson): I am rising for the same reason. I just want to compliment Dr. Simmons on his paper, and express my appreciation of it. There is just one thought that ran through my mind as he talked and I will make it concrete and brief. I do not take obstetrical cases for colored people, but we have a great many of those cases in Jackson that somebody has to give some attention to and when they come to me I often say, "I do not take these cases, but I am willing to help you out in a technical way. You get a good midwife and let that midwife send you to me once a month for prenatal care. I will take your urinalysis and other tests for which I charge you $1.00," (which is very little, but I am helping them out) "and when your labor comes on, if it is a first labor I will go and make you one visit and examine you and tell you what the prospect is, and if you have to have service, you will have to go to the hospital." If everything is all right, and it usually is, then I leave it to the midwife, and I say to her, "If anything goes wrong and you cannot get through in a reasonable time, then call me and I will make a visit." I still do not take the case. Sometimes I have to do it in the end. But such an attitude helps the midwives in a supervisory sense and aids the colored people who are not able to go into a hospital and have a doctor. We have many negro women in Jackson who never have a doctor, but who would be helped if all of us who do obstetrics would take this supervisory attitude.

Dr. Patterson (Rosedale): I think that Dr. Simmons' paper is one of the type we should not pass over lightly, for we have these cases daily in country practice, and I believe if the Government would appropriate enough money to take care of the hospitals and the obstetrical cases, more service would be rendered the public than through any other possible channel. Perhaps this suggestion might be construed from the standpoint of state medicine, but I believe Government appropriations to take care of these cases would save more lives and do more for humanity than a multitude of other purposes for which money is spent.

Dr. McMillan (Lucedale): Not being a good obstetrician, but coming from a county where there is no hospital, I do want to say that in our county we have only one midwife. When I went there 20 years ago, they were all over the section. How did we get rid of them? We took those cases ourselves, and we attend them rather than let them have a midwife. We have five doctors in our county, all of whom take those cases. We get nothing from them, but they do not suffer. We have only one midwife and she has instructions to take care of them as long as she can without interfering and then call the doctor. In that way we have less trouble with our obstetrics. We deliver them in the homes as well as we can and maybe attend to the baby, as we have no nurse. Since you have to do some charity, why not do it for those whom you can save?

Dr. E. L. Walker (Magee): I think Dr. Simmons' paper a good one, but I can not discuss it because it is too much for a man of my caliber to discuss. I notice there has been a lot of stress laid on midwives. They are about 30,000 in number, I think. It has been my observation, and I have been among them many years, that they have improved, perhaps just a little bit more than the doctors have, for they have learned as they have been taught—"handle not, touch not." The morbidity, however, is not being lowered as it should be. It must evidently be up to the medical men that are doing the deliveries. We either do not know what to do or we are not doing what we do know. One or the other. It can't be attributed to anything else.

Childbirth was once a natural process attended with circumstances that sometimes hindered, like everything that goes on naturally. Today we have very few of what could be considered natural deliveries. We have them delivered on time, short deliveries, long deliveries and wrong presentations. All seems to be normal, yet there is some deviation, something prior to or during the delivery that has made it an abnormal case. I believe that the majority of these abnormalities can be overcome if the doctors will just give a little bit more time to the work, and to reading articles by men that know what to do. We all come in contact at times with cases that we absolutely do not know how to handle, and it may be best that we do not. I have delivered lots of babies. It is a hard matter always to know what is exactly the right thing to do, and it is harder to keep from meddling with that difficult, unusual case. We may avoid puerperal sepsis, but there may be a little traumatic injury there that in after years will amount to something. Another thing that is very prevalent among doctors all over the country is not to give quite enough time. Time cannot be reckoned in deliveries as it can in other things. We have to get through with it so the woman will come out of her misery; she wants to get out, that is natural. Consequently, we have medicines on the market — uterine stimulants, that are right in their place, but which should by no means be used in everyday obstetrics, but we do.

Just a few remarks on babies—Can these babies be saved? This answer can be correctly answered in the affirmative or in the negative. 'Tis true the mortality of early infancy is too high and our remedies seemingly inadequate to lower it.

It is my belief that 95% of the deaths in full term infants can be prevented by proper handling of the second stage of labor, by heart and respiratory stimulation immediately after birth, heat, and careful handling.

Prenatal care for both mother and child is very, very important. No woman should go into labor until she has seen somebody that is better prepared to see her through than she herself is. I have made it a rule for the last three or four years to try to get every woman to see me from the time she knows that she has become pregnant at least once a month. I delivered 168 babies in 1938, all live babies. I have not had that good luck with the few I have delivered this year. I saw 95% of the women that I delivered last year, part of them all the way through, some of them three or four times. This year, I am doing the same thing; it's better for me; it's better for the expectant mothers. A little more intelligence, conscientiousness, and God-like, hard-working men, we can save more mothers and we can save more babies. I thank you.

Dr. Simmons (closing): I have nothing further to say except to thank the doctors for their discussion. I would like to state that this paper was written as pertaining to rural obstetrics and not to city practice. From Hazlehurst to Fayette it is 50 miles, and from Port Gibson to Hazlehurst it is 40 miles, and there is not a doctor between those places. Hence, it is more necessary that we pay attention to our midwives in that area. The doctors won't go out to the country to give this care, and it behooves us to train our midwives as thoroughly as we can. Then they will call the doctor when it is necessary.

The Art of Anesthesia, Especially as Applied to Abdominal Surgery*

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TO HAVE LIVED means to have suffered. Pain has been an unhappy experience in the life of every human being since the beginning of time. Your presence here today represents a challenge to the monster, Pain, and a rebellion against its ravages. Means to dispel this destroyer of tranquillity and comfort have been sought throughout the ages, yet it marches on, conquered only by the use of anesthetic drugs. Sir William Osler once said, "Anesthesia is the greatest single gift ever made to suffering humanity; at a single stroke the curse of Eve was removed." No wonder the world bows in homage to those benefactors who developed anesthesia!

The beginning of the use of anesthetics is not known. Narcotics have been referred to since antiquity. Homer, in his Odyssey, said, "Helen dropped into the wine of which the soldiers drank a drug, an antidote of grief and pain, including oblivion to all ills. He who drinks of this mingled cup sheds not a tear the livelong day, were death to seize his venerated sire or her who gave him birth, or were the sword buried in the bosom of his brother or greatly loved sister, no tear would even then bedew his cheeks."

More than 2,000 years ago, the vapor of hemp was used to induce intoxication, and the juice of certain leaves was taken to relieve the pain of cutting or burning the human flesh. Early in the Christian era Galen speaks of the use of mandragora to paralyze sensation and motion. The search for a safe means to triumph over pain has never ceased, and today we are reaping the rewards of this search. To call a partial roll of the inhalation anesthetics which have been discovered, and their discoverers, one would mention Priestly's discovery of nitrous oxide in 1772; Long's ether in 1842, and Morton's use of it in surgery in 1846; Simpson's chloroform in 1847; ethyl chloride, discovered in 1847 but not used until 1900; ethylene, in 1923; and cyclopropane, introduced by Waters and his associates in 1934. In addition, other methods of inducing anesthesia have been devised, chief among them perhaps being intraspinal and intravenous injection.

In slightly less than a century, literally millions of anesthetics have been given and a vast amount of information has been added to our knowledge of anesthesia. The art of anesthesia has come to be based upon certain fundamental laws. The anesthetist who would excel in this art and promote its advancement must seek to understand these laws and learn to apply them in practice. According to Flagg, the **controlling element** of these laws constitutes the real essence of the art. He further states that experience begets dexterity, tact and skill. But he admonishes that familiarity breeds contempt. The anesthetist must never forget to approach each case with **courtesy** and **respect**, for the possibilities of failure as well as of success in each are almost unlimited. A thousand anesthetics, instead of leading to crudeness, should make one a thousand times more careful.

The majority of authors of books and monographs on anesthesia have been graduates in medicine. They emphasize the great need for physicians who are especially trained to administer anesthetics. They state that the anesthetist should study the patient before and treat him after the anesthetic. Such an Utopian ideal would be excellent if it were practicable, but in the average case it is utterly impossible. Admittedly, such special procedures as intratracheal, intravenous, and spinal anesthesia should be carried out by expert physician anesthetists; the usual inhalation anesthetic as given in the vast majority of cases, however, can be administered by the nurse anesthetist in a most satisfactory manner. In the city of Memphis, practically all inhalation anesthetics are given by forty-five nurse anesthetists; so far as I know, we have not a single physician anesthetist who devotes all or even a part of his time to anesthesia. Here in the South, the use of physician anesthetists would not be economically feasible. Our Southern people are not financially able to pay the fees which would be necessary to support a sufficient number of physician anesthetists in our hospitals to take care of the work. Nurse anesthetists have less invested in education and usually have few family responsibilities, and can therefore afford to work for less income. From the standpoint of efficiency, moreover, they are well suited for the position. They are interested in their work; they concentrate their attention upon the administration of the anesthetic and are not diverted by an interest in the technic of the surgical procedure. They have keen powers of observation, and are sensitive to the patient's reactions and quick to recognize impending danger, and they feel their reliance upon the surgeon sufficiently to call his attention to the first indication of trouble. Further, their concern about the patient goes beyond the operation. They have both the time and inclination to follow his immediate postoperative course and to do whatever may be necessary to make him comfortable and reduce postoperative complications.

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*Read before the Mid-South Nurse Anesthetists Association of Tennessee, February 17, 1939.

Not only this, but the services of nurse anesthetists are always available. They can be relied upon to answer calls at a moment's notice. Their time is not divided between the giving of anesthetics and the practice of medicine. They take up their work as a life's profession and, as a consequence, can continue their association with the surgeon indefinitely: an advantage to both surgeon and patient, since they soon learn the surgeon's habits of procedure and can interpret and carry out his needs without direction.

The same attributes which make women peculiarly adapted to the profession of nursing fit them particularly for work as anesthetists. Because of their intuition and innate sympathy, they are gentle, alert, careful, and faithful in the performance of their duties, and are thus able to carry to a high perfection the art of anesthesia.

All anesthesia is of three types: spinal, general, and local anesthesia. Since my interest is largely in abdominal surgery, I shall limit my discussion to spinal and general anesthesia. Local anesthesia, obviously, has only a restricted application in this branch of surgery.

SPINAL ANESTHESIA: In the early days, spinal anesthesia fell into disrepute because of the many complications and the number of fatalities which attended its use. The anesthetic agent had not been developed to its present perfection, and there were other considerations, such as lack of experience in the administration of the drug, which added to its unsavory reputation. Now, however, in competent hands spinal anesthesia may be employed with safety and a certain degree of satisfaction. From the surgeon's viewpoint, spinal anesthesia is highly desirable in that, by its use, ample relaxation is obtained, the operation is expedited, and trauma to the viscera is minimized. In many cases it seems that the patient is more comfortable after operation and results are better. Unless given by an expert and unless the course of anesthesia is watched throughout by someone who is especially trained to discover any complication, however, spinal anesthesia still has its dangers.

A personal element enters into the question of whether one should or should not give a spinal anesthetic, and if the surgeon would prefer not to have it used in his own case, I think he should probably avoid its use in his practice, so far as possible. One surgeon has stated that members of his staff and their families have preferred spinal anesthesia for themselves. Many of us, on the other hand, feel differently about the matter. I have frequently stated that I should not like to have a spinal anesthetic myself, and I hesitate, therefore, to give it to a patient unless it is definitely indicated and inhalation anesthesia would be unsatisfactory or inadequate. It has been my observation that the complications from spinal anesthesia equal those from general anesthesia, and for this reason I find no definite argument in favor of the former as a routine measure.

Further, one should not overlook the psychic element which must be reckoned with in the use of spinal anesthesia. I have seen a number of patients who held bitter memories of the operating room scene. The fact that their lower extremities were paralyzed, that they experienced that unusual numb feeling which is characteristic of the anesthetic, and were awake and conscious of the procedure, made an impression upon their minds which was decidedly unfavorable. Others, however, have not objected to the experience. There is a wide difference in the reaction of patients, and one should therefore select with care those who are to receive a spinal anesthetic. As a rule, inhalation anesthesia produces no unfavorable psychic reaction.

General Anesthesia: For many years, or, to be exact, from the time of its discovery until the introduction of ethylene, ether was the most popular anesthetic agent. Its toxic effect on the liver and kidneys, its irritative action on the respiratory tract, and the postoperative discomfort of the patient are distinct disadvantages. Although an inestimable boon to humanity, superior in many respects to previously known anesthetics, ether leaves much to be desired.

Nitrous oxide has always held a definite place in abdominal surgery. The oxygen content of this gas, however, is approximately only 10 per cent, and the risk of asphyxia and anoxemia which it involves is an element of some concern. Further, its inability to induce profound narcosis and adequate relaxation necessitates its use with some other drug, usually ether. When an abdominal operation is to be performed, complete anesthesia and muscular relaxation are desirable. If nitrous oxide and oxygen only are used, without a special indication, the patient can be kept on the table, but the surgeon is materially handicapped in the performance of the procedure. If ether is used freely, however, the potency of the gas oxygen is enhanced. Gas oxygen induction and ether maintenance, followed by gas oxygen for recovery is ideal in many cases. By this method, the ether given during the maintenance period may be entirely eliminated by the gas oxygen during the stage of recovery.

Ethylene, which was introduced in 1923, is similar in effect to nitrous oxide, though it is much more powerful and provides a more profound anesthesia and far better relaxation. With this drug, one may reduce the amount of supplementary ether, and, in some operations upon the lower abdomen, dispense with it altogether. Ethylene is non-irritating to the respiratory tract, as is nitrous oxide, but is superior to nitrous oxide in that its higher ration of oxygen tends to prevent venous hemorrhage and cyanosis. Postoperative nausea and vomiting and distention are rather more severe than following the administration of nitrous oxide, but less so than following ether. Ethylene, therefore, represented a long step forward in the history of anesthesia, and in fact was the universal preference among anesthetic agents until within recent years.

The success of ethylene stimulated a wide interest in the possibilities of anesthetic drugs and inspired numerous investigations. Surgeons became more exacting in their demands for an anesthetic which would be safe for the patient and reduce to a minimum postoperative complications, yet insure freedom of surgical performance. A drug which almost ideally meets these demands was found in cyclopropane.

The principal advantages of cyclopropane lie in its high oxygen content (85 per cent), and the fact that it is the least toxic of the inhalation anesthetics. For these reasons, the drug may be given with safety for all types of operations and to patients who present the most serious surgical risks. Induction is smooth and without effort, and breathing is quiet and unlabored throughout the course of anesthesia. This feature is particularly desirable in patients with heart disease, since the heart is thus spared the strain incident to difficult respiration. In like manner, protection is afforded patients with pulmonary complications; the air passages are not irritated, there is little secretion of mucus, and the cough reflex is preserved. Cyclopropane is also suitable for the diabetic; the conversion of glycogen in the liver is not increased, nor is the kidney execretion of sugar, acetone, or diacetic acid impaired. To the anemic and debilitated, cyclopropane may be administered without fear of exaggerating these states. Patients recover from the anesthetic quickly, and postoperative nausea and vomiting and distention are not troublesome. In fact, patients who have had operations wherein other anesthetics were used almost invariably express a preference for cyclopropane, because of the more pleasant induction and the greater postoperative comfort.

Muscular relaxation and ease of manipulation afforded by cyclopane are, as a rule, equal to those provided by ether. When necessary, a small amount of ether may be added to the cyclopropane, depending upon the same factors which control anesthesia with other gases. When, as occasionally happens in operations upon the upper abdomen, slight difficulty is experienced in obtaining perfect relaxation by this method, we have found that muscle tension is effectually released by a regional block with novocain.

In a paper written jointly by Miss Fink and myself, our first 100 cases were reported. A few of the patients in that series suffered a moderate degree of shock, but there were no deaths attributable to the anesthetic. Later, I reported 250 cases, wherein even fewer patients gave evidence of shock. In more than 1,200 operations performed under cyclopropane anesthesia since that report, not one patient has suffered severe shock or other untoward reaction, nor has any patient succumbed from the anesthetic. With this added experience, we have acquired a firm confidence in the safety of the drug.

We have recently combined helium with the gas-oxygen anesthetic for patients with asthma and heart disorders. Helium serves to dilute the oxygen, permitting its more thorough dissemination throughout the lungs. Being inert, this gas has no effect upon the vital organs.

Within the past few years much has been written regarding intratracheal anesthesia. Practically all our anesthetics have been given by the inhalation method, and my experience with intratracheal induction is therefore limited. The method is valuable in upper abdominal operations on patients who are poor risks, since the intratracheal catheter keeps the airway unobstructed, obviating laryngeal spasm, and better relaxation is obtained.

A word should be said about the new anesthetic, pentothal sodium. This drug, given intravenously, has proved a successful means of including anesthesia for short minor operations. Caraway, of Birmingham, has used pentothal in 3,500 surgical procedures, many of them on the abdomen. The fact that the anesthesia is without postoperative effect makes this agent excellent for removal of drains following major abdominal surgery.

In all abdominal operations, the surgeon must have a safe anesthetic, a controllable anesthetic, and one which permits ample relaxation and is attended by the fewest possible postoperative complications. We prefer a well administered cyclopropane anesthetic with the occasional addition of a slight amount of ether and, if necessary, a supplementary abdominal field block. In rare cases, we find spinal anesthesia more suitable, but, other things being equal, cyclopropane serves our purposes most effectually.

A Comparison of Atabrine Prophylaxis and Treatment on the Incidence of Malaria

DRS. W. L. ERVIN, Inverness; C. R. GILLESPIE, Indianola; and H. B. COTTRELL, Jackson

Ever since the synthesis of atabrine (methoxychlor diethylamino pentylamino-acridine) by Schulemann, et al, and the work of Kikuth showing the remarkable toxic effects of this drug on the parasites of malaria in 1932, atabrine has been the subject of many pharmacologic and clinical investigations. Following numerous reports in both American and foreign literature on the effectiveness of atabrine in the treatment of clinical malaria, the County Health Department of Sunflower County, Mississippi, determined to test this preparation on a sufficiently large scale to obtain an analysis of results that would be free from the error of small numbers.

The section chosen for this study is located in a highly endemic area of northwestern Mississippi. The terrain is gently rolling; there are many small streams and fresh water ponds which offer abundant breeding places for Anopheles mosquitoes. The population chosen for study consisted of Negro tenant-farmers located on large plantations. Their social and economic condition does not differ markedly from other such groups throughout the South.

The investigation was started in the spring of 1934. It was planned to determine what effect the treatment of all cases of malaria once a year (in the spring) would have on the incidence of the disease as reflected in the blood parasite index, and also what effect such treatment would have on the general health and well-being of the population. For this purpose, one plantation was chosen for study. Each spring during the years 1934-1938, inclusive, a survey of all the people living on this plantation was made, and all of those showing malarial parasites in their blood were given a single therapeutic course of atabrine. This course consisted of 0.3 gm. of atabrine per day in three divided doses for five days. The results of the blood parasite surveys each spring are shown in Table 1.

TABLE 1

	1934	1935	1936	1937	1938
Smears	188	266	206	192	210
Positives	31	52	43	14	17
Percentage	16.2	19.6	20.8	7.3	8.1

It will be noted that the percentage of positive blood smears increased slightly from 1934 to 1936 in spite of treatment with atabrine. There was a marked fall in the number of positives in 1937, which was maintained in 1938. Since the reduction of the parasite index did not occur until the third year of atabrine treatment, it seems hardly likely that this effect can be ascribed solely to atabrine. It is well recognized that many factors may influence the prevalence of malaria in any locality from year to year. The most important of these factors is, of course, the number and extent of breeding places available to Anopheles mosquitoes. The prevalence of breeding places is usually directly dependent upon rainfall. Other factors which may exert influence are temperature, humidity, the economic status of the human host, etc. While it is uncertain which of these factors may be responsible for the fall in incidence of malaria noted in the spring of 1937, it is a fact that the last three years have been exceptionally dry throughout the South.

An evaluation of the effects of anti-malarial treatment on the general health and well-being of a group of people is difficult since it depends to a considerable extent upon subjective findings. It is the opinion of those in closest contact with this study, however, that the general health was definitely improved, and that, although malaria was prevalent as ever, judging by parasite surveys, three years of treatment had the effect of rendering the malarial burden more easily borne by its victims.

During 1937, when the parasite index on the treated plantation was 7.3 per cent, a survey of the workers on 12 other plantations scattered throughout the same county showed a parasite index of 11.3 per cent. Whether this difference of 4 per cent in favor of the treated plantation is of any significance is open to question. Early in 1938 we determined to undertake an experiment in prophylaxis since it was felt that the results of a single yearly treatment of malaria patients were unsatisfactory from the standpoint of malaria control.

In the spring of 1938 a blood parasite survey was carried out on the 214 residents of the same plantation studied in previous years. Each person in the prophylactic area was visited twice a week and given atabrine. This routine was followed from May 15 to October 1, a season which coincides with the greatest anopheline activity. The dosage of atabrine was as follows: Each adult was given two tablets of atabrine (0.1 gm.) on each of two nonconsecutive days of each week. Children between the ages of six and twelve years were given two 0.05 gm. tablets of atabrine twice a week; those under six years of age were given 0.05 gm. of atabrine once a week. Medication was carried out by the plantation owner, and the atabrine was always administered in his presence.

As controls, the 120 tenants living on two adjacent plantations were surveyed in the autumn of 1938. The conditions on these control plantations were similar in every way to those on the prophylactic plantation. None of the houses of either group was screened, and the anopheline density was essentially the same in both groups. Blood parasite surveys were made of the prophylactic group in February, August and November-December of 1938. Table 2 shows the results of these surveys.

TABLE 2
(1938)

	Feb. 23	Aug. 3	Nov. 30 & Dec. 12
Smears	210	206	213
Positives	17	2	1
tiful bluff	overlooking	the river	built good
Percentage	8.1	1.0	0.5

The difference in the parasite index after less than three months of prophylactic treatment is so striking that it can hardly be due to other factors than the use of atabrine. In the November-December survey only one person was found harboring parasites, a parasite index of 0.5 per cent. In the two plantations forming the control group, 23 blood smears (19.1 per cent) were found positive for malaria.

Throughout the year 1938, careful morbidity records were kept in both groups. In the prophylactic area there was one case of illness diagnosed as malaria. In the control group there were 17 cases of malaria characterized by the occurrence of chills and fevers. Of these 17 cases, blood smears were taken on 14, all of which were positive for Plasmodium vivax. All blood smears were examined by the same laboratory technician throughout this entire study. The method used for laboratory diagnosis of malaria was the thick smear stained with Giemsa's stain.

TABLE 3

Dimensions	Catching Time	Distance To Lake	Anopheles Quadrimaculatus		Culicenes
			Male	Female	
16x16x8	15 min.	800 ft.	0	16	
16x16x10	15 min.	400 ft.	1	28	2
16x16x10	15 min.	¾ mi.	0	7	
16x16x10	15 min.	850 ft.	0	5	
16x16x10	15 min.	800 ft.	0	28	1
16x16x8	15 min.	350 ft.	0	14	
16x16x8	15 min.	200 ft.	0	2	
16x16x8	15 min.	300 ft.	1	33	2

During July, 1938, an entomological survey was made, and eight mosquito-catching stations were established from 200 feet to ¾ of a mile distant from the principal source of mosquito breeding. Mosquitoes from these catching stations were collected and identified. The results of these collections are shown in Table 3.

Discussion

The malaria incidence among Negroes living on a plantation in northwestern Mississippi ranged from 16.2 per cent in 1934 to 20.8 per cent in 1936. In 1937 and 1938, the figures were 7.3 per cent and 8.1 per cent, respectively. While some of this fall in malaria incidence may have been due to the yearly treatment with atabrine of patients harboring parasites, it is likely that meteorologic conditions were the determining factors. Subjectively, the spring treatment of malarial parasite carriers seemed to be beneficial to the general health.

The parasite index on two control plantations not receiving prophylactic treatment with atabrine was 19.1 per cent in the autumn of 1938. The administration of small doses of atabrine twice weekly throughout the malarial season reduced the blood parasite index in the inhabitants of another plantation from 8.1 per cent in the spring to 0.5 per cent in the autumn of the same year. This reduction in the blood parasite index took place during the season of maximum anopheline activity when one would expect the blood parasite index to have risen. Symptoms of toxicity were carefully watched for, but no side effects which could have been ascribed to atabrine administration were ever noted.

Conclusions

1. While the treatment of all malarial parasite carriers early in the year may materially lessen suffering from this disease and improve the general health, such a course of treatment is insufficient to control the occurrence of malaria in an endemic area.

2. Using the blood parasite index and morbidity records as criteria, small doses of atabrine administered twice weekly are capable of eliminating malaria as a serious public health problem.

3. Atabrine prophylaxis is safe and easy to apply even to a backward and uneducated population.

Governor's Address*

HON. HUGH L. WHITE
Governor of Mississippi
JACKSON, MISSISSIPPI

In coming to you this afternoon, I feel that possibly I can come with more sympathetic understanding of the problems and the work of the medical association than I could have last year or the year before, because I sincerely believe that my presence here today has been made possible by certain members of your profession, and it is to them that I owe whatever I may have in the way of health now and in the future. Hence, as the result of this feeling, I come to you as a layman, to talk to you from a layman's standpoint, but with a clearer view of your problems as I have studied them the past three years as your governor.

I, as governor, have only a few months left and my recommendation is for adequate appropriations to guard the health of our people. And if I were to give my little message to you a caption, it would be, "The Physician's Stake in Mississippi's Health Welfare." Without aid, my friends, the health of our people and the economic condition of the profession which you represent cannot go forward, nor can the doctors enjoy the economic freedom to which they are entitled. This brings me then to your work in the state of Mississippi, what you have endeavored to accomplish and what has been accomplished, and some of the problems with which you have been confronted and that you face in the future.

To the minds of many, inadequate appropriations for the health of our people have been made, which we all readily admit, so it was with genuine pleasure that I read the statement made before you yesterday by that grand gentleman who is at the head of the Hospital at Whitfield of the needs of that institution and that they must have more appropriation. The doctors owning the hospitals of this state acknowledge the need for better hospitalization. The grand jury read a report in Jackson yesterday of the deplorable condition of the charity hospital in Jackson, which can be matched by the other five hospitals owned by the state. Dr. Boswell at the Sanatorium with inadequate appropriation is now in a rather desperate condition as the result of the light plant, water and other needs of that institution. We do not deny that all of these institutions need more help—they need more support, but I wonder if I could ask the medical profession of this state today if there is a man in Mississippi, even this great secretary, Dr. Underwood, (and there is not a man in Mississippi for whom I have higher regard than Felix Underwood), who knows the needs from your standpoint. Then who is to blame that you have this condition? I am not here to censure you as governor, but do you know the needs of the people of the state? Do you actually know th needs of the institutions of Mississippi? While we admit those who sit in public offices today have their lack of foresight on the needs of these institutions, they are not to blame. The members of your own profession have not made it possible for them to have the actual knowledge which they should have in order to make intelligent appropriations to the institutions of Mississippi.

"Now, what do you mean, Governor?" Here is exactly what I mean. In the days that have gone we have heard year after year the condemnation of the schools of Mississippi—that you cannot satisfy the schools of the state, that they are constantly calling for increased appropriations—yet when the legislature would meet not a member of that legislature had the actual knowledge of how much money was actually required to run the public schools of Mississippi. Therefore it was up to the powers that be in educating the people of Mississippi who would come to the legislature and make their demands for an appropriation. We decided, back in 1937, I believe it was, that this haphazard method of making appropriations for education in Mississippi should be discontinued—that we would make only a nominal appropriation for the public schools and that if the legislature would appoint a committee to make an actual study of the needs of the schools of Mississippi, then we would call the legislature back into extraordinary session and make appropriations for the schools of Mississippi. It is needless for me to tell you the result—that the appropriation was raised sufficiently to give to every county in Mississippi an eight months' school term, which is being carried on today.

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*Address, transcribed from stenographer's notes, delivered before the Section on Hygiene and Public Health of the Mississippi State Medical Association, May 9, 1939, Gulfport, Mississippi.

When the proposal was made to the legislature that, according to my judgment, the people of this state could have homestead exemption, it was immediately apparent that it would be necessary to go out and get the facts as to the actual amount of money that would be required to put it into effect. As all of you know, there was that constant hammering, hammering, that the cost of it would eventually sink the state of Mississippi. I made the statement to the legislature that if the members would get the facts from every county and from every municipality in the state that I would call an extraordinary session of the legislature so that the plan could be put into effect in this state.

Before we got the figures, there was no doubt in the minds of most that the cost of homestead exemptions would possibly run from three to five million dollars more than was actually needed. When the figures were brought together, and the time came to make the actual disbursements to the counties and to the municipalities, even in that extraordinary session of the legislature, the statement was made by distinguished members of that legislature that the figures were all wrong—it could not possibly be; yet we needed $75,000.00 less money than the figures we had assembled showed would be required.

As we came together to formulate the great highway program for the state, we did not do it in a haphazard way, but we had the state program laid before the legislature as to the roads to be covered, estimating the appropriation to be made to take care of each, or the amount of money that would be required, and the bonds to be sold. A set program was followed as we went out to do that work. And yet, my friends, this great organization which you represent, the medical profession, hasn't any figures, hasn't any facts. You do not know what is needed in Mississippi today to take care of our institutions as they should be taken care of, or the health of the people as it should be preserved. You have gone in that same haphazard way as the average citizen of the state of Mississippi who has neglected his teeth and his eyes and other things essential to the full life, dependent upon whether or not he would make a good cotton crop this year. That has been too characteristic of life in Mississippi.

That beautiful statement that has been made by some one, "I thank God for work and the strength to work," this thing that so much affects the income of the physician today and the economic status of Mississippi, the strength to work, is dependent upon you, the medical profession of Mississippi. If I have properly analyzed in your judgment what is necessary, then I want to bring you this thought: I am going out of office in January. You will have another governor; you will have another legislature, but you men have another responsibility added to your professional routine. It is up to you to impress the man who takes the place that I occupy today, and to install into his heart that same sympathetic understanding which I have for the work which you are doing. It is up to you to enlighten the members of the legislature that this is not simply an appropriation matter, but it represents the economic life of Mississippi, which is dependent upon what you do; that health must be better preserved if the standards of income now at a low ebb among so many of the families of this state are to be raised.

Now, I want to discuss just a few problems in connection with specific institutions. I do not know how many of you know how much money Mississippi is actually appropriating for medical work, but the last legislature, for the biennium, appropriated $3,009,000.00 for medical work in this state, an average per capita of 75c. This appropriation takes in the Board of Health, the Tuberculosis Hospital, and the hospitals of the state. I understand that you have had before you a resolution for a state-wide hospital to be located somewhere—I did not catch just where. You have five hospitals in Mississippi today for which $267,000.00 was appropriated. The five counties in which they are located get the chief benefit of those five hospitals in Mississippi. If I am wrong in that I want to be corrected. The remainder of the state received approximately $500,000.00. Every one of these five hospitals, particularly two of them, is in a deplorable condition. The Building Commission, of which I am the chairman, recently set up an appropriation of $10,000.00 for the Charity Hospital in Jackson, and another $35,000.00 to build a wing which I have talked to Dr. Garrison about today, for the crippled children. We had hoped that that $35,000 would be matched by P.W.A. funds, but we were turned down on that appropriation, because the request was not in early enough. And, as I told Dr. Garrison today, I doubt the wisdom of spending that $35,000. It is inadequate, it does not mean anything, added to a little ramshackle building up there, not properly equipped, not fit for the people of Mississippi.

I can stand before this profession and say to you today, gentlemen, that on the present basis of appropriations, without another dollar in the way of increased taxation, Mississippi can give to you another million and a half for the biennium for the care of the sick of this state, can carry on homestead exemption, the old age pension, and the eight months' school term in Mississippi.

If this organization is interested in the real welfare of these institutions let's put them on the proper basis, by giving the problem the right kind of study, and by going to the legislature with a well-prepared program. These are the needs of the people of Mississippi's income today. After all the other departments of the state have been cared for, after provision has been made for the actual needs of the schools of Mississippi—not on what some fellow says we are going to ask for, but upon the actual facts and figures before me and before the legislature—every county may have the privilege of an eight months' school, an old age pension kept on a par with what Mississippi ought to do and carry on its other work, and the present program of work may be kept going just as it is today, even with an additional increase of a million and a half for a well-prepared program. We can continue to meet the bonded indebtedness of Mississippi until it is retired, and we can keep the budget in balance, and we will never ask the taxpayers of Mississippi for another dollar in the way of taxation. (Applause).

There has never been a time in the history of Mississippi that was better than now, in my judgment. That the grand juries condemn month after month, and year after year has no effect; we do not get anywhere with it. Let's not build that wing, doctor. Let's plan for the type institution that ought to be put there or wherever you wish, and take from the hospitals and doctors over the state those patients who are unable to be cared for in the different hospitals, and care for them in a great central hospital with proper appropriation, properly administered. Then we will have taken a great forward step for the welfare of our people. If we do not know what is needed to take care of the charity of the state, you have the men who have the knowledge, and you have the skill, you have the wisdom, and if you will come with your plan well laid out, as I leave office in Jackson, though the legislature or the incoming governor may not pay any attention to it, I will present it as my outgoing message to Mississippi. I thank you. (Applause).

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THE ACTIVITIES OF THE PRESIDENT

The resolutions submitted by the president of the Mississippi State Medical Association, Dr. J. P. Wall, in regard to hospitalization for the indigent is a very worthy step in the direction we have been attempting to travel.

The medical profession of Mississippi has been striving to reach the peak of perfection in caring for the indigent sick. It is quite necessary that a large number of these cases must be hospitalized. The state-wide hospital program has been sufficient in many instances, but many of the state-owned institutions are inadequately equipped and facilities are not sufficient to care for these cases. It is very necessary that the medical profession of Mississippi at this time make every effort to continue the present hospital facilities and enlarge those that are inadequate and to insist on the establishment of a large hospital to care for diseases requiring those attending them to have highly specialized training and equipment.

If the members of the medical profession will put their shoulders to the wheel this summer I am thoroughly convinced that we shall see results, since the members of the legislature should reflect the sentiment of their various districts.

Let me urge that each of you make every concerted effort possible to push this matter forward.

L. W. L.

In 1931, in communities less than 1,000, the population per physician was 1,602, and in communities over a hundred thousand, five hundred and thirty. (This excluded the New England States).

Eighty-five per cent of the practice of medicine could and should be done by general practitioners in our opinion, but the practitioner should be able to recognize the case that should see the specialist and should not hesitate to refer him at once.

Population per physician in the United States according to the A. M. A. is 767, in Great Britain 1,045, Germany, 1,307, France, 1,596 Yugoslavia, 3,450. Under the system of sickness insurance it seems that one physician is expected to look after the health of from one to two thousand population.

Secretary T. M. Dye announced at the Gulfport meeting that the state association had a paid-up membership of 1,001, the largest in its history. The American Medical Association at St. Louis announced a membership of 113,113, with more than seventy thousand fellows. This indicates a growing interest in organized medicine.

The United States now has 77 approved medical schools as compared with 160 in 1900. These schools require at least two years of college work for entrance and many of them four years. The number of graduates now are but few less than in 1900. They are much better prepared to practice the art of medicine now than in the days of the low standard schools. The Council on Medical Education of the American Medical Association has been responsible for weeding out the inferior schools.

The house of delegates of the American Medical Association voted against the Wagner bill without a dissenting vote. The sentiment was not actually quite so unanimous, of course. The committee report urged the strengthening of public health work, child health and maternal care, and suggested that funds be provided for the few in actual need of medical care and hospitalization rather than the inauguration of a national system different to what we now have.

The state meeting at Gulfport was acknowledged as a good one. The Gulf Coast doctors were generous in their entertainment, the gulf breeze invigorating as usual, and the scientific program up to par. Governor White's message was able and graciously received. In his friendly and business-like manner he convinced the association that he was a friend to the profession, the hospitals and to the people in need of medical care. President Joe Green's message before the house of delegates and the public assembly were both able and contained many constructive suggestions. The visiting essayists were good. The oration by Dr. Oren Moore was unique and well received. Dr. J. P. Wall is now president and he is very actively on the job. He is versatile and well qualified for president and at Jackson next year we may expect one of the best sessions the association has ever had.

It is estimated now that the whiskey bill in the United States amounts to one hundred and fifty dollars per family per year. The American Medical Association seems to think that medical service to the masses is a matter of economy rather than the changing of a system, rather than socialized medicine. And in the main it is no doubt correct. Our crime bill is sixteen billion per year. The American Medical Association has made a good start in showing the relation of whiskey to motor vehicle accidents. Now if it would go further into this problem and show the relation of whiskey consumption to disease, especially venereal, to crime, to poverty, and to mental disease and inefficiency, it could build for itself a monument more than marble. Whiskey has always been a major problem in the march of civilization, but careful investigation and study of its relation to human affairs such as this great medical organization is able to do has never been made. The medical profession has a great opportunity from the challenge of human civilization.

The roster of officers and time of meeting for the county societies is incomplete. Each county secretary is urged to check the set-up and send in corrections or information to complete this roster.

Don't forget to talk to your candidates for governor and the state legislature as to how they stand on our hospital legislation. Now is the time to know. Read what Governor White had to say and the resolutions adopted at the state meeting.

The world is on edge with fear, one nation fearing another. This fear comes on down to business groups, professions, and individuals. If we had the courage to meet propositions as they come, and the determination to do the kind, considerate and right thing and abide by the consequences, we would do better. This applies to the medical profession as well as to others.

The doctor of tomorrow needs some of his internship in the small hospital just as badly as he does in the large one. Three months in a twenty-five bed hospital is just as important for him as six months or longer in a five-hundred-bed one. We trust the American Medical Association will show some appreciation for this viewpoint while it is becoming more interested in all phases of medical practice.

We deeply regret the death of Dr. Oliver Hill which occurred June 21. Dr. Hill was a member of the Council of the Southern Medical Association for Tennessee. He attended the meeting of the American Medical Association in St. Louis in May. He was an able and most valuable man in organized medicine. His specialty was pediatrics. Dr. Hill will be greatly missed in the Southern Medical as well as other organizations. He will be missed most by his home city, Knoxville. His son, Oliver W. Hill, Jr., who has been his associate for two years, will carry on in his father's specialty.

The tribute paid Dr. W. C. Walker at Houlka at the last meeting of the Northeast Mississippi Thirteen Counties should be encouraging to the man who is going along doing his best for his people day by day. This recognition was a great tribute to service well-rendered. It is comforting to feel that whether it comes or not, reward for service will come someway, somewhere, sometime.

Mississippi has taken the most forward step of any state in the union in the interest of the indigent sick in that it provides funds on a per capita basis. The state averages more than one hospital to each county, which is entirely adequate. The system could be improved, however, by a more perfect distribution. The number of hospitals in some towns is not indicative of the finest type of cooperative medicine, nor is it conducive to improved and permanent hospital service. We should give special attention for the next few years to the improvement of our hospital buildings and equipment and to the raising of our hospital standards of service. A more ideal distribution of hospital plants will also encourage a better distribution of doctors. With such services available the profession can continue the pace -- has set toward medical service to the masses. The application of medical truths already known offers the largest immediate returns in satisfaction to the profession and in health and happiness to the people. Hence, a hospital system which provides constant cooperation and correlation of effort in every way warrants more immediate benefit to the people. There needs to be a closer affiliation between the specialist and the practitioner, the small hospital and the large, and a better understanding between the laity and and the medical profession. To this end the doctors of Mississippi are striving with definite plans.

Dr. J. P. Wall, at the annual meeting in May at Gulfport, described the need for a large well-equipped central hospital, and for more adequate support for all established hospitals throughout the state. The house of delegates endorsed his resolutions. Governor White, in addressing the association, assured the doctors that he favored more adequate hospital support and that the funds for this purpose could be readily available. The general central hospital would serve as a clearing house for complicated and chronic cases referred from other hospitals over the state. It would provide treatment for cripples and other special cases. And with it, the State Hospital at Whitfield, the Tuberculosis Hospital, the State Board of Health, and our small hospitals throughout the state, we can offer one of the best and most practicable internships in this nation. Not one of our state charity hospitals in Mississippi has the approval of the American College of Surgeons. Our state is unable to offer any standard internship, but with the above set-up which would not call for a great increase in funds we could offer the very best. Three months for interns in our small hospitals would be a fine feature that other hospitals have not offered. It would bring the intern in close relation to the patient and teach him to have due consideration for him as well as the diseases with which he is afflicted. It is an easy step now to improve the standard of our hospital service so that the benefits to the people will be greatly increased, a first class internship offered, and educational advantages to the practitioners multiplied. Our state medical association through the leadership of its president, Dr. Wall, believes that the further perfection of our hospital system would insure better medical service to every person in our state and that the cost would be within our ability to pay.

In the further perfection of our hospital system with its per capita distribution, there are some details of importance to be worked out. Every doctor in the state should study the plan and offer his aid. The laity should be informed as to the added benefits and certainly every candidate for the legislature and for governor should be interviewed and informed as to the plan of the state medical association. It is hoped that every doctor in the state will do his part now to insure success at the next meeting of our legislature. The newspapers of the state can do more perhaps than any other organization of the state to aid in this laudable undertaking. Ask your county paper to carry this information to its readers. Let us be active and go forward. The strength of a nation is measured by the health of its people.

DEAFNESS AND TRIGEMINAL NEURALGIA CURED, Dr. T. Carroll Davis and Dr. John C. Rommel, of Philadelphia, (Archives of Otolaryngology, Vol 29, No. 5, pp. 751-758, May, 1939).

—Here is described a new and successful treatment for that bugbear of the doctor and patient, deafness. Dr. Rommel discovered that the hypodermic injection of prostigmine improved the function of hearing. He tried it on a few patients tentatively, and their hearing promptly improved. He then suggested to Dr. Davis that they test it on a large number of patients. The results of their work are presented in the Archives, above mentioned.

These doctors found that early cases, those of recent beginning, recovered their hearing after four or five treatments. The longstanding, chronic cases required longer treatment, because the disease had a firm grip on the hearing apparatus. So in some cases a hundred injections were required. Many of the patients, however, required much less treatment. Some cases were benefited that really seemed hopeless. The prostigmine is injected two or three times a week.

In all patients careful examination of the nose, ear, and Eustachian tubes was made, since most of the cases of deafness are due to local catarrhal affections, including hypertrophied turbinates and nasal sinuses. When such pathology was found present the necessary treatment is given: catarrhal conditions are cleared, hypertrophies reduced, Eustachian obstructions overcome, using Eustachian tube inflation, Proetz treatment of the sinuses, etc.

Dr. Davis cured a case of trigeminal neuralgia while giving the prostigmine injections for deafness.

The writers give a concise presentation of the physiological action of the drug, and compare it with eserine and acetylcholine. Atropine is the physiological antagonist, or antidote, to prostigmine. The article includes a two-page tabulation of cases treated, age, duration, and results.

Here now is the first successful treatment for deafness and trigeminal neuralgia. It is far superior to any other treatment thus far devised. It should be given promptly to all hard-of-hearing persons. Many persons now using hearing devices will be able to discard them after treatment by prostigmine.

— W. H. A.

The first half of 1939 is gone—we are entering the third quarter—time does indeed pass rapidly. But to this writer there is no past—with his eyes steadfastly focused on the future, his face turned upward and forward, he accepts as binding the Biblical injunction, "forgetting the past, let us press forward towards (not to) the mark of the high calling," which in medicine is perfection, knowing full well that this goal may never be attained by any man. He, with resolute intentness of purpose, has determined to catch step, and if possible, keep step with the fine boys who are entering the domains of medicine. These boys are the hope of medicine in the future. But how can they stand with none to support and strengthen them? How can they go forward with none to guide them? They are, of course, possessed with the optimism of youth, but they are handicapped with the over-confidence of inexperience. And only with long experience, bitter disappointment and failure may they hope to attain a judgment that is dependable. Knowledge may be quickly and easily acquired by some, but judgment comes only from the sane, painstaking and conscientious use of knowledge. Again, it has been said that "a little knowledge is a dangerous thing." But this writer wonders if even great knowledge may not be even more dangerous if possessed by one whose conscience has not been trained and developed along with the brain. Knowledge may be and is an instrument for either good or ill, depending upon how and by whom this instrument may be wielded—just as a sharp scalpel in the hands of a sane, well-trained and conscientious surgeon may be an instrument of mercy, while in the hands of one who has been poorly trained, who is careless in habits and devoid of conscience, it becomes an instrument of torture and even death. Knowledge and judgment when conjugally mated are wonderfully fine and beautiful. But even so the picture is not yet complete—there is still more to be desired. Knowledge and judgment are but two components of a triad. **Wisdom** is the capstone which, superimposed upon knowledge and judgment, completes the structure. Knowledge may, by personal effort, be acquired — judgment may be attained, but wisdom is a gift from the gods. And this gift—the supreme qualification in medicine—is but rarely bestowed. The possession and exercise of this qualification, perhaps, has led the public to the conclusion that certain men are "bo doctors." This conception, of course, is roneous. But who has failed to observe the uncanny way in which a few doctors can through the haze and maze of uncertain an confusing manifestations and are able to rea correct conclusions as if by intuition? Supporting the triad knowledge, judgment and wisdom, there must be a trained and untarnished conscience if a doctor is to be acceptable and trustworthy. It is the belief of this writer that if the above standard of qualifications should be adopted, magnified and demonstrated before the public, there would be no fear or threat of state medicine. Neither would there be any economic crisis confronting us as doctors. When the public shall have been convinced that the chief aim of our profession is to relieve human suffering, prolong human life and add to the sum of human happiness, then our financial embarassments will cease to exist. But before this utopian time can come the older members of the profession must become more kindly disposed to the younger ones and receive them into their ranks with more cordiality. And the recruits must realize that although they have large stores of knowledge, mature judgment is yet to be attained and wisdom may never be vouchsafed to them. And this last word to both **old and young**: Let us remember that our business as doctors is (assuming that we possess the necessary qualifications) to treat **sick people** rather than certain **diseases.**

— G. S. B.

TUBERCULOSIS ABSTRACTS

1. Question: How valid is the tuberculin test? May we assure parents that the positive or the negative reaction is absolutely correct?

Answer: The tuberculin test is one of the most reliable tests that we have for determining whether or not tubercle bacilli have at some time entered the body. If positive, it does not necessarily indicate the presence of tuberculosis, the degree of infection, nor the extent of damage done, if any.

For all practical purposes, exceptions to this statement may be ignored. They should not cause worry to parents.

2. Question: Which grades should be tested?

Answer: The ideal plan would be to test children of all grades and ages.

First Grade Pupils—In this group one is likely to find so small a number of infections as hardly to make the effort worth while on a very large scale. On the other hand, experience has shown that very young children with positive tuberculin reactions will serve as leads to a large number of open cases of tuberculosis that were active sources of infection.

Kindergarten—The same may be said of this group.

High School—The high school age is receiving special attention for several reasons. First, because of the high morbidity and mortality rate known to exist between the ages of 15 and 25. Secondly, because in the average high school a large percentage of this important age group is available under ideally-controlled conditions. More cases of tuberculous infections are likely to be found in this age than in the lower grades.

3. Question: When is re-testing advisable?

Answer: All tuberculin-negative students should be re-tested at least once a year. All tuberculin-positive students should be re-x-rayed at least once a year, unless something abnormal is found, when the frequency of re-x-raying will depend upon the particular circumstances in each case.

4. Question: Is the Mantoux test so definitely superior to other tests that the question of choice may be ignored?

Answer: The Mantoux test is definitely superior to other tests because:

1. It is twice as sensitive as the scratch test of Von Pirquet.
2. It is an exact quantitative test.
3. The response when positive is more definite, and more prompt than in all other tests.

However, as a second choice, especially in the face of objection to the "needle," the patch test may be used. The following are the objections to the patch test:

1. It must be kept dry.
2. It must not be interfered with by the child.
3. Frequently when examined at the end of 48 hours, it may be negative, and require four days for a reading.
4. Under the best of circumstances it is at least five per cent less reliable than the Mantoux test.
5. The greater cost of each test would also become a financial problem if planned for a large number.

5. Question: What is the significance of different degrees of reaction?

Answer: Different degrees of reaction have no significance beyond the fact that they indicate different degrees of sensitivity. This has no bearing upon the question of the amount of infection or disease, and need not concern school administrators or even school physicians. It is better not to confuse the minds of parents with any attempts to interpret degrees of reaction.

QUESTION: Should all positive reactors be x-rayed? Are there indications to warrant x-raying of negative reactors?

ANSWER: All positive reactors should, without exception, be x-rayed.

With reference to negative reactors, an x-ray is not necessary to exclude tuberculosis; but it is frequently advisable for certain special reasons, such as malnutrition, suspicion of heart disease, chest deformity, or recent non-tuberculous lung infections such as pneumonia, or the presence of symptoms of chronic bronchitis or pulmonary disease of non-tuberculous character.

7. QUESTION: Assuming a positive reaction to the Mantoux, and a negative reading of a paper film, what should be told parents?

ANSWER: A positive Mantoux reaction, by itself, does not indicate that a person has tuberculosis. "If the tuberculin test is positive (red and swollen), it means only that tuberculosis germs have at some time entered the body. It does not tell how many there are, or if any damage has been done. It should not cause worry to parents.

"If the test is positive, the child's chest should be x-rayed to be certain that no harm is being done in the lungs. An x-ray examination should also be made of every member of the household to learn if the child is being exposed to an open case of tuberculosis. Search should also be made among the child's playmates or others with whom he comes in close contact. It is perfectly safe for a child with a positive reaction to mingle with other children,—for unless there are tubercle bacilli in his sputum, he cannot pass them to others."

(Tuberculosis Case-Finding in Public Schools, A. E. Jaffin, M.D., The Journal of the Medical Society of N. J., Vol XXXVI, No. 2, Feb., 1939.)

TO THE MEMBERS OF THE MISSISSIPPI STATE MEDICAL ASSOCIATION

You will recall at the recent annual session of the Association certain resolutions were unanimously passed relative to the state charity hospitals and barbituric preparations.

Since that time you have been sent copies of these resolutions and a request made that you help in this campaign by explaining to the legislative candidates from your district what these resolutions mean, and secure from them a pledge of helping us in this most laudable undertaking.

All of the gubernatorial candidates have approved these resolutions, and from different parts of the state, where the legislative candidates have had them explained, these resolutions have been endorsed by the candidates for the legislature.

Many of the legislative candidates have not been seen, so I am asking you, please, to see them before the first primary and if possible secure a pledge that they will support our bills.

To get their approval now insures their support next January, when the legislature meets.

Motion pictures are being made of the five charity hospitals, showing the actual conditions now existing in them; and I hope to have a survey made which will show the physical plant, its equipment, service, needs and possibilities for greater service to our poor people.

With your help I am positive we will be able to show the legislature the soundness of our position, and if this can be done in a concrete way, I am just as sure that we will get adequate appropriations for the proper equipment and the humane maintenance of these institutions.

May your president count on your help?

Remember:

"Organized medicine needs every doctor and every doctor needs organized medicine."

J. P. WALL, President
Mississippi State Medical Ass'n.

DR. U. S. WASSON

On May 12, 1939, the Grim Reaper called from the professional rank and service of Sunflower County a choice spirit, Dr. U. S. Wasson, who served his profession and community long and well. His chief aim and endeavor was for the advance of his profession and relief of pain and suffering. He was the immediate past-president of the Sunflower County Society, which he had attended faithfully for many years.

Sincere sympathy is extended his loved ones. May our loss be his eternal gain.

TUBERCULOSIS SEMINAR

The third annual meeting of the Tuberculosis Seminar of Asheville, North Carolina, of which Dr. William Ray Griffin is president, meets at the Medical Library, July

10-16. Eminent men from that section will lecture. Clinical conferences, which are the fundamental feature of the course, will be conducted with patients, covering history, symptoms, and physical examination.

Woman's Auxiliary
TO THE
MISSISSIPPI STATE MEDICAL ASS'N

President	Mrs. Hugh Johnston Vicksburg
President-elect	Mrs. E. C. Parker Gulfport
First Vice President	Mrs. John B. Howell Canton
Second Vice President	Mrs. W. H. Cleveland Tupelo
Third Vice President	Mrs. W. H. Anderson Booneville
Fourth Vice President	Mrs. H. E. Frizell Vaughan
Recording Secretary	Mrs. W. K. Stowers Natchez
Treasurer	Mrs. J. D. Simmons Cleveland
Parliamentarian	Mrs. V. B. Philpot Houston
Historian	Mrs. Harvey F. Garrison Jackson

MESSAGE FROM NEW PRESIDENT

MRS. HUGH JOHNSTON

Glancing at our ledger, we see on the liability side the innumerable problems of the medical profession: worries, anxiety, loss of sleep, insufficient renumeration, advances of the propagandist, and of the politician who wittingly or unwittingly menaces the work of this humanitarian profession. A view of the asset side, however, is a view of a rainbow, for there we see ideals, loyalty, co-operation, and a joy of service built upon scientific advancement in the promotion of health.

In the ledger which exists in our minds, do the assets outweigh the liabilities, or are they hidden by them? If the latter is true, then we ourselves have become liabilities.

We have only to think a moment to realize that the assets have more than outweighed the liabilities.

The Woman's Auxiliary to the Mississippi State Medical Association is beyond both infancy and adolescence, and is not likely to be carried away by an exaggerated and impossible idealism.

In the progressive evolution of our organization, we have attempted, and I think succeeded, in maintaining the golden mean between impetuous idealism on the one hand, and inertia on the other.

Since we know what our work is and why we are working, the final step toward success is entirely up to us, and the means by which we can take the final step is found in the one word—co-operation.

Our present task and ambition is to maintain and further the principles upon which our organization has been built. No organization, no matter how lofty its ideals, nor how fervent its members, can long endure without a well-balanced and sincere belief in its objectives, or without a rigid framework of unselfish members, capable and desirous of assuming responsibilities.

This work is made easier by the knowledge that we are serving a worthy purpose, and are assuming our share of social responsibility.

That this attitude is a wholesome one, and the only one, which will assure the continued growth and usefulness of our organization there can be no question. It is this spirit which we must nourish and treasure, for it is the life-blood of our organization.

The principal functions of our Auxiliary are: health education, public relations, legislation (reserve force), philanthropy, and social work, such as aiding in the sale of T. B. seals, serving on health committees of P.-T. A. organizations and clubs, furnishing milk and other food for needy children, having toys repaired for these children, etc.

The most important objectives of our Auxiliary are: to direct public thinking and actions in channels the medical profession desires, to disseminate authentic information on health, with special emphasis on tuberculosis and social diseases, and to increase membership in our Auxiliary.

The laity requires education, but this education should be given through the medical profession, so that there may be rational control of what the public thinks and does in health activities.

We are looking forward to a great year in health education, and are eager to do our best in helping to make the way happier and smoother for our doctors, as they ponder the various problems that face the profession in this changing age.

We all have an opportunity for service.

In our health education work we try to teach that "all attainable health is a duty, all avoidable sickness is a sin."

I believe that the united efforts of our loyal Auxiliary women throughout our state will accomplish much in preserving the health of our state.

NEW PRESIDENT HAS WIDE INTERESTS

Mrs. Johnston combines the busy life of mother, the role of club woman, the interests of house and garden and church work with her career as doctor's wife. And she accomplishes it all gracefully. Her education at Hillman College and Blue Mountain College prepared her for two successful years of teaching in Carr Central High School in Vicksburg, after which she married Dr. Hugh Haralson Johnston and went with him to Rochester, Minnesota, where he continued his postgraduate training. He was at the Mayo Clinic for three years, after which they returned to Vicksburg and assumed the responsibilities of active professional and civic life.

Our president has two children, Martha Ann and Hugh, Jr., who with a house that is constantly open to friends, consume much of her time. She is active in the American Association of Club Women, in her garden club, in the Medieval Auxiliary, the Little Theater, and the Junior Auxiliary. She balances her social activities with Sunday school and W.M.U. work in the First Baptist Church of Vicksburg, of which she is a member.

It appears that the Auxiliary took the philosopher's advice: "If you want something done, go to the busiest person you can find."

TO THE LADIES OF THE WOMAN'S AUXILIARY TO THE MISSISSIPPI STATE MEDICAL ASSOCIATION

The president-elect of the Mississippi State Medical Association during 1938 enjoyed the wonderful co-operation you gave him, and now as president of the Mississippi State Medical Association he craves a continuance of that help he feels he so needs for the next year.

The Mississippi State Medical Association has certain objectives for 1939-40, a cataloging of which can be found in the June issue of THE MISSISSIPPI DOCTOR in the message of the president to the members of the Association.

You are a group of over 300, and the mere fact that you are active in the Auxiliary is evidence that you are interested in organized medicine, and with concerted action by you good results can be anticipated.

With medicine being beset on all sides by profiteering politicians, with principles that are hallowed by long usage being threatened, efficiency of the medical profession being lessened by regimentation and with the probabilities that the doctors will in the near future becoming mere hired men of Governmental agencies, you as the wives of these men have a very substantial stake in this changing order.

As Mordecai said to Queen Esther:

> "Who knoweth whether thou art come to the Kingdom for such a time as this?"

J. P. WALL, President
Miss. State Medical Ass'n.

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Mississippi State Medical Association

Organized in 1867

Next Meeting: May, 1940, Jackson.

OFFICERS

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R. B. Austin, Forest
B. T. Robinson, New Augusta

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Speaker—J. Rice Williams, Houston
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Second District—L. L. Minor, Rt. 4, Memphis, Tenn.
Third District—R. B. Caldwell, Baldwyn
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COMMITTEES

Program:
Surgery—Edwin Benoist, Natchez
Hygiene and Public Health—E. W. Noblin, Sr., Jackson
Medicine—Ira Seale, Holly Springs
E. E. N. and T.—E. Staton, Columbus

Anti-Barbiturate:
J. M. Acker, Aberdeen
J. Gould Gardner, Columbia
L. S. Lippincott, Vicksburg
B. J. Marshall, Whitfield
E. LeRoy Wilkins, Clarksdale

Public Policy and Legislation:
Felix J. Underwood, Jackson
Henry Boswell, Sanatorium
W. H. Anderson, Booneville

Charity Hospitals:
J. C. Culley, Oxford
W. W. Crawford, Hattiesburg
John Darrington, Yazoo City
B. B. Martin, Vicksburg
H. R. Shands, Jackson

COMPONENT SOCIETIES

County Society	President	Secretary-Editor	Time of Meeting
Adams	James C. Rice, Natchez	Fred Geisenberger, Natchez	Third Tues. 7:30 p. m.
Amite	W. S. Stewart, Osyka	H. A. Butler, Liberty	Sec. Thur. 7:30 p. m.
Central Med.	J. T. Ranier, Yazoo City	H. C. Ricks, Jackson*	First Tue. 7:30 p. m.
Claiborne	E. P. Jones, Hermanville	G. W. Acker, Port Gibson	
Clarksdale and Six	W. H. Williams, Tunica	E. Leroy Wilkins, Clarksdale	Fth. Wed. March and Sec. Wed. Nov.
Clarke-Wayne	W. P. Gray, Waynesboro	Albert Hand, Shubuta	
Coahoma		Julius L. Levy, Clarksdale	
Coast Counties	F. O. Schmidt, Ocean Springs	D. L. Hollis, Biloxi	
Delta	G. Y. Gillespie, Greenwood	F. M. Acree, Greenville	Sec. Wed. Apr. and Oct. 2 p. m.
DeSoto	Henry M. Wadsworth, Hernando	L. L. Minor, Memphis, Rt. 4	
East Miss.	C. H. Harrison, Philadelphia	Guy T. Vise, Meridian	
Franklin	C. A. Everett, Bude	L. Costley, Meadville	
Issa-Shar-Warren	Walter E. Johnston, Vicksburg	Alston Callahan, Vicksburg	
Jefferson	C. R. Senter, Byhalia	Herbert Phillips, Holly Springs	Sec. Thur.
Marshall		W. T. Harper, Fayette	
Newton	W. L. Henton, Decatur	Dudley Stennis, Newton	
North Miss.	C. M. Speck, New Albany	A. H. Little, Oxford	Third Wed., Jan. Apr. Jul. Oct.
Northeast Miss.	J. W. Lipscomb, Columbus	A. J. Stacy, Tupelo	Sec. Tue., Mch. Jun. Sep. Dec.
Pike	E. M. Givens, McComb	T. Paul Haney, Jr., McComb	First Thur.
Pontotoc	J. H. Windham, Ecru	E. B. Burns, Pontotoc	
South Miss.		Van C. Temple, Hattieburg	
Sunflower		H. B. Cottrell, Indianola	
Tallahatchie	G. Lacy Biles, Sumner	J. E. Powell, Charleston	
Tate	W. D. Smith, Senatobia	J. S. Eason, Coldwater	Sec. Wed.
Cop.-Law.-Lin.-Wal.	R. S. Savage, Brookhaven	R. B. Zeller, Hazlehurst	Sec. Tue. Mar. Apr. Jun. Dec.
Webster	E. T. Arnold, Bellefontaine	H. K. Curry, Eupora	
Wilkinson	C. E. Catchings, Woodville	E. M. Butler, Centerville	
Winona Dist.		S. B. Caruthers, Grenada	

*Felix Underwood, county editor

(*The following communication has been sent to each member of the Mississippi State Medical Association.*)

TO THE MEMBERS OF THE MISSISSIPPI STATE MEDICAL ASSOCIATION

Gentlemen:

Herewith am handing you copies of resolutions, unanimously adopted at the recent meeting at Gulfport of our Association.

Will you study them, also read the article "Hospitals and Medical Care in Mississippi" in the June 3rd, edition of The Journal of The American Medical Association?

These resolutions have been submitted to the seven gubernatorial candidates and they have all endorsed them, so if you will present these resolutions to the candidates for the legislature, we will be able to acquaint them with the need for these hospitals, and if we can show these representatives how much legislation is needed I feel like there will be very little trouble in getting their approval.

There are 1495 doctors in Mississippi and the influence they can wield is great, especially in this case, as what we are asking has only one possible result, and that is making life a little more bearable for the indigent sick of our state.

After you have contacted your candidates for the legislature, will you please let me hear from you as to their reaction?

So far not a single person with whom I have discussed these resolutions, regardless of whether medical or lay, has offered a single objection to them.

Let us remember:

"Organized medicine needs every doctor and every doctor needs organized medicine."

Sincerely yours,
J. P. Wall, President,
Mississippi State Medical Association.

* * * *

STATEWIDE HOSPITALIZATION

Whereas, For the past four years the program for care of the indigent citizen of Mississippi in private and community hospitals has proved highly successful to the patients, doctors, and to this organization, and

Whereas, It is very essential that such a program should be continued, in order that the class of patients served by this hospital group may be properly cared for in the community near their residence, therefore

Be it resolved by the House of Delegates, The legislative body of the Mississippi State Medical Association, in annual session this the eleventh day of May, 1939, that it most heartily approves hospitalization as provided by the present system of statewide hospitalization of the indigent of our citizens, and be it further

Resolved, That we respectfully request the Governor of the State of Mississippi, to recommend to the incoming legislature a continuance of this program, which has meant and will continue to mean so much to our people.

* * * *

HOSPITAL RESOLUTION

Whereas, The state charity hospitals of Mississippi serve a class of our citizenry unable to secure medical attention elsewhere, and without the ministry of these institutions great suffering and loss of life would be entailed upon a large group of Mississippians, and

Whereas, These institutions are inadequately equipped and insufficiently maintained, thereby greatly impairing the work that can be done, which work considering the facilities available is bringing a great relief to thousands of our people every years, therefore be it

Resolved by the House of Delegates, the legislative body of the Mississippi State Medical Association, in annual session, this the ninth day of May, 1939, that it does respectfully request the Governor of the State of Mississippi to recommend to the legislature of the State of Mississippi that it make proper and adequate appropriations for the equipment and maintenance of the charity hospitals of Mississippi, that they can minister as they should to the poor of our state as they are entitled to be served.

* * * *

CHARITY HOSPITAL AS A CLEARING HOUSE OF OTHER HOSPITALS

Whereas, The hospital facilities in the various sections of our state are not adequate for the proper care of many of the indigent citizens of Mississippi, and the medical profession has not the training for general application of the principles of orthopedic treatment and care of chronic cases, such as cancer, and

Whereas, The establishing of a large hospital in some centrally located place in Mississippi, properly equipped for the care and cure, when possible, of orthopedic and chronic cases, with adequate maintenance and trained staff, would relieve the other charity hospitals and privately owned institutions of a great burden, and at the same time offer better prognosis to just such cases, and

Whereas, Such a centrally located hospital, affiliating with the State Tuberculosis Sanitarium and the State Insane Hospital could and would offer interneship training to our young graduates that would fit them to be better doctors and keep them in our own state, after completing their interneship, therefore be it

Resolved by the House of Delegates, the legislative body of the Mississippi State Medical Association in annual session, this the ninth day of May, 1939, that the Governor of Mississippi be respectfully requested to recommend such legislation to the legislature as will make possible the foregoing desirable means of ministering to the indigent of this state.

Whereas, The Mississippi State Medical Association because of its knowledge of the ability of its various members is in a position to know, who, from a medical standpoint, could and would best serve as superintendents of our various hospitals, and,

Whereas, A system now employed in the appointment of the members of the Mississippi State Board of Health has removed the Mississippi State Board of Health from the influence of factional politics and has placed it under the control of the Mississippi State Medical Association, and such a system has resulted in the choosing of a board of health that has functioned successfully, therefore be it

Resolved by the House of Delegates, the legislative body of the Mississippi State Medical Association, in annual session, this the ninth day of May, 1939, that it does respectfully request the Governor of the State of Mississippi to recommend to the incoming legislature such legislation that will permit the Mississippi State Medical Association to present three names from the state-at-large to the Governor of the State of Mississippi for the superintendency of each charity hospital in the state, and from such three names the Governor of the State of Mississippi shall name the superintendent of the state charity hospital for which the names are presented by the Mississippi State Medical Association for each hospital.

* * * *

ANTIBARBITURIC ACID RESOLUTION

Whereas, The preparations of barbituric acid are known to be "Habit Forming" and often have effects comparable to the banefulness of the indiscriminate use of opium, and

Whereas, In Mississippi the various preparations of barbituric acid, can be, and are being bought, over the counter by the laity without any restrictions whatsoever, thereby leading to many of our citizenry, young and old becoming addicts to this drug, therefore be it

Resolved that the Committee on Public Policy and Legislation of the Mississippi State Medical Association be instructed to present the facts in regard to the abuse of this drug and its compounds before the Health and Quarantine Committee of the Mississippi State Legislature and urge the passage of legislation that will put the control of this drug and its compounds under the restrictions of the medical profession.

* * * *

REPORT OF THE AMERICAN MEDICAL ASSOCIATION ON THE VETERANS ADMINISTRATION AND THE FARM SECURITY ADMINISTRATION

It is noted that the report printed here below, the committee report in regard to the Veterans' Administration, seems to be favorable both towards the Veterans' Administration and the Farm Security Administration.

It is quite clear that the major part of the time devoted by the committee was devoted to the matter of medical service for the Farm Security Administration, and it is also noted that they heartily commend the announced attitude of the American Farm Bureau Federation. They must, of course, carry out the plan with the attitude presented to this committee.

* * * *

REPORT OF REFERENCE COMMITTEE ON LEGISLATION AND PUBLIC RELATIONS OF AMERICAN MEDICAL ASSOCIATION ADOPTED AT ST. LOUIS, 1939

The report of the Legislative Activities Committee has been referred to us for consideration. The report covers in an informative manner two principal items of concern to the medical profession, namely, the Veterans' Administration and Medical Relief through Farm Security Administration.

We have given careful consideration to both problems as set up in the report, and beg to report as follows:

"Veterans' Administration: It is clear from the history and the statistics cited in the report that the purpose of the Veterans' Administration is primarily that of providing adequate accommodations for veterans entitled to medical and hospital service. It is anticipated that the peak of requirement of medical service will be reached in 1949 or 1950. A steady increase in available hospital beds will be incurred until that time. We feel that we are now in no position to object to the present rate of increase. We are advised that the Veterans' Administration has heretofore given due consideration to the counsel of our Liason groups, of whatsoever make-up, and that there has been no particular embarassment between them. It is our information that the present intention of those in authority at Washington is to make use of these surplus hospital beds after the peak of demand has passed, for the domiciliary care of veterans not able to provide for themselves. It is our opinion at this time that this would be the proper use of these facilities. However, we would call the attention of this House of Delegates to the ease of conversion of veterans' hospitals into hospitals for the care of the public in general under some plan of socialized medicine. There seems to be no recommendation that we can advantageously make in this connection at this time.

"MEDICAL RELIEF THROUGH FARM SECURITY ADMINISTRATION: The report is very clear and specific in dealing with this problem, also. It occurs to us that the main requirement in this matter is a better understanding with the Farm Security Administration, and a very definite co-ordination of effort between county and state medical associations, under the advice and counsel of the Bureau of Medical Economics of the American Medical Association. At the present time the practice of the Farm Security Administration is to contract for medical service either with county medical societies or state medical associations, as convenience may dictate. We are advised, however, that the Farm Security Administration would prefer dealing with state medical associations primarily, and county medical societies secondarily. It occurs to us, and we so recommend, that all contracts for medical service under Farm Security Administration should be made with county medical societies, under master contracts with state medical associations, in which latter the metes and bounds from the angle of medical ethics and medical economics should be set up. And in order that there may be co-ordination of effort and uniform observance of the economic and ethical factors involved, it is further recommended that county medical societies and copies of their respective contracts, in duplicate, be sent to their respective state associations, one of which copies should be forwarded to the Bureau of Medical Economics of the American Medical Association. And the trustees are requested to provide through the Bureau of Medical Economics for such statistical and other information as may be of service to state associations and county societies. The procedure recommended here should be looked upon as an opportunity rather than a requirement.

"There are many reasons why some effort should be made to direct developments in the matter of medical service for Farm Security Administration clients and similar groups. The procedures involved furnish an admirable setup for very objectionable practices in the direction of socialized medicine, so-called. Under the contracts involved in the systems, no practice should be allowed which is objectionable from the angle of socialized medicine. These practices have all been definitely and clearly set out in various pronouncements of the House of Delegates of the American Medical Association. Certainly, there should be freedom of choice of physicians, and certainly there should be no intervention of a third party between the patient and his physician; neither should there be any direction by any agent of the Government as to the nature of treatment to be accorded the patient by his physician. It will be appreciated that in the present state of changing order, there will likely be changes in the economic and ethical factors involved, which accentuate the necessity for close supervision of such matters.

"We heartily commend the announced attitude of the American Farm Bureau Federation, as preservative of the practice of medicine as we know it and believe our people want it.

Respectfully submitted,

Holman Taylor, Chairman,
L. G. Christian,
K. S. J. Hohlen,
Thomas P. Farmer,
G. Henry Mundt."

Interpreting Medical Literature

STAFF OF REVIEW

Dermatology—James G. Thompson, Jackson.

Eye, Ear, Nose and Throat—Alston Callahan, Vicksburg.

Obstetrics and Gynecology—J. W. Lucas. Greenwood.

Orthopedics—Thomas H. Blake, Jackson.

Pathology and Clinical Pathology——John C. Henthorne, Jackson.

Pediatrics—Harvey F. Garrison, Jackson.

Public Health—Felix J. Underwood, Jackson.

Radiology and Roentgenology—Karl O. Stingily, Meridian.

Surgery—John Culley, Oxford.

Urology—Temple Ainsworth, Jackson.

Discussion and comments are invited.

DERMATOLOGY

Outline of Treatment for Syphilis: Dr. A. Benson Cannon has just recently completed a series of articles in the New York State Journal of Medicine which outlines the treatment from the primary lesion with positive darkfield and negative serology to paresis and congenital syphilis. The precepts taken in this outline are based upon facts and observations arrived at and made from case histories of thousands of cases treated at the Department of Dermatology of the Vanderbilt Clinic and at the City Hospital.

The outline is divided into three separate articles and is too long to attempt to describe in detail in an article of this kind. One of the important points brought out though, is that the use of old arsphenamine is to be desired in all cases where it can be used. The technique of its preparation and use in small clinics and private practice is described in detail. The drug is being prepared in such a manner that a single dose can be given as easily and with almost as little effort as a dose of neo-arsphenamine. This article should prove extremely interesting to men who are treating a good deal of syphilis from a standpoint of private practice, and from men who are directing public health clinics.

This complete outline can be obtained, postage free, as long as they last by dropping a card to Dr. J. G. Thompson, City Hospital, Welfare Island. Permission especially obtained from Dr. Cannon.

Dermitis From Industrial Contact With Nicotinic Acid: Dr. R. M. Watrous, North Chicago, Ill., reports four cases of contact dermatitis from the handling of nicotinic acid tablets. As a check on the cause of the eruption eight other people were patch tested, four of these showed some mild reaction within a few hours, and only one got a moderately severe pruritis and burning. The reaction is peculiar to certain individuals and is not severe. These are the first cases that have ever been reported as far as the writer knows. Journal A. M. A., Vol 112, Number 21, P. 2132.

Occupational Melanosis From Pitch: Dr. Harry Foerster, of Milwaukee, and Louis Schwartz, of Washington, present an excellent article in the Archives of Dermatology and Syphilology for June this year in which they studied and described the cause of tar dermatitis in handlers of these products. They found that the tar without sunlight or some form of ultraviolet very infrequently produced a dermatitis, but that the various tar products produced some form of dermatitis in almost every worker who was first exposed to the tar and then exposed to light. The writers are chiefly concerned with the cause of the excessive pigmentation that occurs in patients who have been exposed to tar and tar products, some of whom have never had a marked irritation from the tar. The formation of pigment is gone into thoroughly and the literature reviewed. Some writers state that light is not necessary for the formation of pigment, and prove this by demonstrating the presence of melanin in internal melanotic tumors and in other tissues not exposed to light.

In conclusion the writers feel that dermatitis and melanosis are important occupational hazards, that most of the workers in tar are susceptible, that it is a true melanosis, and that steps should be taken to prevent it by teaching the ones who work in it how to protect themselves, and by providing better working conditions. The condition can also be partially controlled by using physical and chemical blockers of light.—Volume 39, Number 6, P. 955.

A most unusual piece of dermatological literature was created and presented to Dr. Geo. Miller MacKee the evening of June 13, at the New York Athletic Club. The literature was a book, magnificantly bound and well prepared, only one copy of which was printed. It was written by his assistant for the past forty years and was given to him on his fortieth anniversary in the practice of dermatology. In the past forty years he has had thirty-one assistants, twenty-nine of whom are living and practicing dermatology.

practicing dermatology.

— J. G. T.

PATHOLOGY

Progressive Alcoholic Cirrhosis: A Clinical and Pathologic Study of Sixty-Eight Cases, E. M. Hall and W. A. Morgan, Arch. Path., 27:672-690 (April) 1939.—Experimental workers cannot produce cirrhosis of the liver in laboratory animals by the use of alcohol and some feel that ethyl alcohol has been ruled out as a cause. However, toxic necrosis of the liver has been produced by injection of alcohol into the portal vein. The lesions are similar to those produced by introduction of chloroform and carbon tetrachloride but less extensive. The latter two substances are capable of producing cirrhosis of the liver in laboratory animals. Development of alcoholic cirrhosis of the liver in man may partially depend upon altered hepatic metabolism due to increased fatty content and decreased glycogen content. Idiosyncracy to alcohol may play a part since only 5 to 6 per cent of persons addicted to alcohol develop cirrhosis. Condemnation of alcohol as a cause of cirrhosis by some experimental workers is the result of failure to differentiate cirrhosis caused by alcohol and cirrhosis caused by a variety of toxic agents other than alcohol.

The 68 cases selected represented the progressive or active type of alcoholic cirrhosis, in which the liver characteristically is enlarged (2,000 to 5,000 grams, normal 1,800 grams) but not always fatty. Eighty-five per cent of the patients were consumers of alcohol. Fifty-one patients (75%) were "heavy drinkers." Other characteristics of the liver in this subacute type of alcoholic cirrhosis are: finely granular rather than hobnail surface, fibrotic less severe than chronic type, necrosis of liver cells still present and occasionally marked. Polymorphonuclear cells as well as lymphocytes and fibroblasts are found in the portal areas.

The analysis of cases indicates that eighty-five per cent were Caucasian, males outnumbering about 2 to 1. The youngest patient was 24 years old, the oldest 75. Most subacute cases occurred between the third and fourth decade. Ten patients had alcoholic psychosis, seven had either pellagra or alcoholic polyneuritis. Of the ten patients with no record of alcoholism, all but one had severe acute infections. The one other case had severe congestive heart failure. A possible etiologic relationship between alcoholic cirrhosis and syphilis is suggested by the more extreme fibrosis of the liver encountered in the cases with positive Wassermann (17.6%). Jaundice, ascites and hemorrhage were frequent complications. Clinical diagnosis was established with certainty in 52.9 per cent of cases.

Considerable attention is now being paid to dietary deficiency as a factor in alcoholic cirrhosis. Patients frequently evince symptoms of neuritis which is possibly a manifestation of vitamin deficiency. High caloric, high vitamin diets often produce relief of both neuritis and hepatic symptoms. One pint of whiskey produces 2,000 calories of energy which may in itself reduce appetite, and further anorexia may be caused by gastritis, disturbance of function, etc. The periodic drunkard may actually be in a fasting state during a debauch.

Glycogen depletion of the liver in chronic alcoholism seems to be established. Ingestion of carbohydrates seems to protect experimental animals from the development of cirrhosis. The majority of cases of enlargement and fatty infiltration of the liver constitute the first development of cirrhosis. This passes imperceptibly into the subacute phase of cirrhosis to be followed later, if the patient survives long enough, by the appearance of the small hobnail liver. The term "alcoholic cirrhosis" has a firm basis in etiology.

Comment: The sound and studious proposition expounded by the authors will find many of us in sympathy with them. It is almost essential now that they continue their work with a careful demonstration of the fact that the "subacute" hypertrophic type of cirrhosis which they have described is actually a stage of Laennec or the hobnail atrophic cirrhosis of the liver. They would have a still stronger thesis if they could produce a similar study of atrophic cirrhosis. The article is commendable for its consideration of syphilis and dietary deficiency in the production of cirrhosis.

Complete Anuria Due to Blockage of Renal Tubules by Protein Casts in a Case of Multiple Myeloma, R. L. Holman, Arch. Path. 27:748-752 (April) 1939.—A case of multiple myeloma of the plasma cell type is reported. The chief interest in the case is the effect produced on the kidney by the abnormal protein being excreted. The protein was not proved to be of the Bence-Jones type, but produced casts which blocked the tubular system of the kidneys. The non-protein nitrogen rose to 167 mg. per cent before death. The case demonstrates that uremia complicating multiple myeloma is apparently an obstructive phenomenon within the kidney, rather than a toxic manifestation of the disease.

COMMENT: The authors fail to refer to the work of Bell, which is a classic on this subject. It seems likely that they overlooked lesions of the renal glomeruli.

— J. C. H.

PEDIATRICS

Since this is the season of the year in which many cases of pellagra have occurred at least in the past, and frequently now, we thought it would be well to give you a brief abstract in regard to the nicotinic acid treatment of this disease. From all the reports in the literature, it seems that this is quite a useful drug in the treatment of pellagra.

The article in regard to the use of vinyl ether (vinethene) as an anesthetic for short operative procedures in infancy and childhood, in our opinion, is a very good one. This promises to be superior both as to safety and as to value, over any other anesthetic now in use in short operative procedures. It so frequently happens that the physician is called upon to do some minor operation on the infant or the child, and for this reason, we thought it well to abstract this article.

A REPORT OF TEN CASES OF PELLAGRA TREATED WITH NICOTINIC ACID, Vern M. Musick, (American Journal of Digestive Diseases, 5:807, February, 1939). — 1. Nicotinic acid, 50 mg. to 500 mg. per day, is specific in curing the acute dermatitis and glossitis of the Goldberger type of pellagra. 2. Prolonged use of 150 mg. of nicotinic acid a day will cure the chronic dermatitis with abrasions and chronic glossitis of typical pellagra. 3. Nicotinic acid in doses up to 500 mg. will partially control the diarrhea of typical pellagra. 4. Nicotinic acid from 50 mg. to 500 mg. a day is of very little aid in the treatment of the neuritis and mental symptoms associated with pellagra in humans except those with acute delirium. 5. The general health of the pellagrous patient is only slightly enhanced by treatment with nicotinic acid (50 mg. to 500 mg. per day). 6. There is probably another factor or factors, other than the nicotinic acid, which is necessary to cure completely the human pellagrous patient.

THE USE OF VINYL ETHER (VINETHENE) IN INFANCY AND CHILDHOOD, Robert E. Gross, (New England Journal of Medicine, 220:33-, Feb., 23, 1939).—Vinyl ether (vinethene) was employed as a general anesthetic in a series of 100 infants and children ranging from one month to eleven years of age. This drug was extremely satisfactory for minor operative procedures, and in no case was there any alarming or untoward reaction accompanying or following the anesthesia. The extremely rapid induction period with this drug permitted full relaxation in thirty or forty-five seconds. The period of recovery was likewise short, and in practically all cases the patient had regained consciousness in two or three minutes and older children were talking and sitting up in bed at this time. There was post-anesthetic vomiting in only five cases. Vinyl ether can be administered in a closed gas machine, mixing the vaporized drug with oxygen, but since the operation employing the anesthetic is a short one, this method of administration is somewhat cumbersome. The drug can easily and quickly be given on an open mask, and when thus employed in the present series was always satisfactory. Vinyl ether appears to be the safest and most satisfactory anesthetic yet produced for operative procedures of five or ten minutes duration in infancy and childhood. The cost of the anesthetic is moderate, ranging from twenty-five to forty cents for an average case.

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THE DIARRHEAS OF INFANCY AND CHILDHOOD

(With Special Reference to the Use of Apple and Banana, and a Newer Preparation, Pectin-Agar, in the Treatment of Same)

The treatment of the diarrheas are always fraught with difficulty, with anxiety, and frequently with much disappointment. I know of no other disease which has caused more active study and consideration by the pediatrician than that of the diarrheas in children. From the very earliest times the diarrheas have been noted for their high mortality rate in children. Garrison, in 1929, records that in England in 1667-71 during the hot summer months, two thousand babies died of diarrhea in 8-10 weeks. Dr. Ruhrah in 1925 stated that Benjamin Rush in 1789 was the first writer to give anything like a systematic account of cholera infantum. He noted the regularity of its appearance in the summer months, and was the first to connect the disease with hot weather. He gave a very accurate clinical description and refuted the suggestion apparently current then, and often heard now, that it is due to dentition or teething. It was Rush's idea that it was a modification of the adult cholera and remitting fever. During the last forty years, there has been quite a reduction in the death rate from diarrhea in children. In England, as in this country, acute gastro-enteritis is still a menace to infant welfare and particularly in the first twelve months of life. Unfortunately for all concerned, it is usually found among the poor and malnourished and its mortality still remains high. Improved sanitary conditions in all countries with a better and cleaner milk supply, with a better educated public as to the necessity for adequate cleansing of all feeding utensils and the use of pure milk, has contributed considerably to the reduction in both the incidence and the mortality of diarrheal diseases. I feel that it is unnecessary to say anything in regard to the classification since different writers have different classifications. In hot months in this country, we have our most serious cases and they are usually found among the dysentery group.

In recent years much has been written about the experience of our leading pediatricians in the use of the different methods of treatment and particularly emphasizing the importance of the treatment of the diarrheas with both apple and banana. Opinions are about evenly divided as to the value of this treatment. The Lancet for April 29, and May 6, has quite an interesting article on infantile diarrhea by J. M. Smellie, M.D., Edin., F.R.C.P. He has this to say in regard to the prophylaxis of this disease:

"First and foremost comes breast feeding. This is nothing new; its importance has been emphasized by discerning pediatricians for generations, but it has to be admitted that in spite of all this the incidence of breast feeding, is declining. Spence (1938) has estimated that at the present time 20 to 30 per cent of babies are artificially fed from birth in many if not most of our big towns, and not more than a third of the mothers of these towns are fully feeding their babies until the sixth month. Until this state of affairs can be rectified, diarrhea will continue to be a major problem, among the diseases of early life.

"Another very important precautionary measure is prompt treatment at the very first sign of gastrointestinal upset, as manifested by an undigested loose or watery stool. The immediate cessation of all foods and the giving of liberal amounts of plain water or half-strength saline would, I am convinced, about many cases of infantile diarrhea. Rest to the alimentary tract at this stage is of inestimable value and in most cases is all that is necessary."

Drugs are useful only for the treatment of symptoms in infantile diarrhoea. A timely dose of castor oil, in the earliest stages of the disease may be beneficial, but afterwards aperients are not only useless but may be harmful. Astringents in general are contraindicated for they favor retention, and therefore the absorption of toxic products from the alimentary tract. Opium, however, has an important, but strictly limited place in treatment; it must be used with the greatest caution and should be combined with belladonna. The restless crying infant with numerous watery stools and severe toxemia, may gain great benefit from the administration of small doses of opium and belladonna. The restlessness is relieved, the colic abates, the excessive secretions are reduced, the desire for food returns; and sleep follows."

With reference to the treatment, he has the following to say in regard to the apple diet:

APPLE DIET:

"Treatment of all varieties of infantile diarrhoea with what is now called the apple diet has been widely recommended both in Europe and in America. The routine advised is to give 1 to 2 ounces of raw, ripe, grated apple every two hours, day and night for one to two days, and it is claimed that a rapid abatement of the diarrhoea and toxemia is thereby obtained. There is considerable doubt as to what portion of the apple produces the beneficial effect, but most writers consider that it is due to the pectin. I have given this form of therapy a reasonable trial on several occasions and have to admit that in my experience the results have been most disappointing; indeed not even temporary improvement has been obtained."

The summary and conclusions of this article indicate very clearly his attitude in this matter:

"An analysis of 500 cases treated in the Childrens' Hospital, Birmingham, England, during the last few years reveals that it is essentially a disease of the early months of life, and that its incidence falls most heavily on artificially fed babies.

"In the treatment of infantile diarrhea the correction of the dehydration is the most important measure and for this purpose fluid may be given by mouth, by subcutaneous injection, and by intravenous injections. Blood examinations of these babies commonly reveal a hemoconcentration, and therefore blood transfusions are contraindicated, unless a true anemia is proved. It is difficult to assess the amount of sodium chloride required, but it is probable that in the past, excessive amounts have been administered. After an initial starvation of twelve to twenty-four hours, feeding should be begun, at first with foods low in fat but with a full protein and liberal and mixed carbohydrate content."

There have been many articles written on the use of banana and banana powder in the treatment of diarrhoea. Many are enthusiastic with its use, others are doubtful as to its value. There is no doubt, however, but that it is valuable in many cases. The usual method is to take fully ripe bananas, scraped or sieved, or banana powder. The minimal of amount used consists of one-third to one-half banana or one to two level tablespoonfuls of banana powder, per pound body weight in twenty-four hours. One to two ounces of water is used to dilute each tablespoonful of the banana powder. When the ripe fruit is given, insist on sufficient amount of water to be given with the banana, or separately to maintain the daily fluid requirement. The feedings are usually divided into ten single feedings of thee banana or banana powder with double feedings at 10 P.M. and 2 A.M. At the end of 48 hours of banana or banana powder feedings, the infant or child is put on a so-called "transition diet," consisting of either skimmed milk (boiled five minutes), or skimmed lactic acid milk with banana or banana powder. In older children, other articles of diet are then added, such as well cooked cereal, gruels or dry toast.

The apple diet may be used in a very similar manner to that of the banana as to amounts and frequency of feedings. Apple powder may be used or the ripe scraped apple may be used in the same amounts and frequency.

One of the most recent and apparently one of the most practical as well as most valuable articles appears in the June, 1939, issue of the "Journal of Pediatrics," by Winters and Tompkins of Indianapolis, Ind. The title of this article is: "Pectin-Agar Diets in the Treatment of Bacillary Dysentery in Infants and Children."

"The pectin-agar preparation was developed in an attempt to overcome the disadvantages of the raw fruit diets and at the same time try to retain the good points and to eliminate the necessity of starvation which has always been a basic principle in all types of diarrheal therapy. Influenced by the experimental and clinical work of Malyoth, Bauman, and others showing that pectin and cellulose were the active agents in the apple therapy, a combination of pectin and agar-agar plus dextrimaltose was devised. Although the proportions have been changed several times the product as used the last three years was essentially:

"Pectin	6.3%
"Agar-Agar	4.3%
"Dextrimaltose	89.4%

"These are mixed together in a powder, which is used in the milk for the feedings of the infant or child suffering the diarrheal symptoms.

"METHOD: Two basic forms of feeding have been found very practicable. A fluid form which is used for the nurslings or for gavage purposes is made in the proportion of one cup of the pectin-agar powder to 24 ounces of milk, while for the older child who is spoon-fed, the more concentrated combination of one cup of the powder to 16 ounces of milk is used. The milk is added slowly to the powder and the combination cooked in a double boiler 10 to 15 minutes with occasional stirring. The more fluid form is placed in nursing bottles in the quantity desired for each feeding. When cold, this forms a soft gel which upon reheating and shaking will break down into a smooth thick liquid and can be fed through a nipple with an enlarged opening. The infants take the feeding as readily as do the older children. However, we have found that it is sometimes necessary to add flavoring such as chocolate, vanilla or peppermint or sliced bananas, banana powder, or various colorings to overcome the objections which were sometimes encountered with the older children. Some from this older group seemed to prefer the feedings warm, while others took them more readily if chilled or even frozen. During the first few years of the use of this product, while we were uncertain as to the extent of the therapeutic action of this material, we made the feedings with water, then very dilute milk mixtures, and later skimmed milk. However, during the last three years one-half skimmed and even whole milk have been used with equal success."

As you will see from the above quotation, this is a mixture of pectin, agar-agar, and dextrimaltose. These are mixed together in a powder which may be secured from Mead-Johnson and Company, Evansville, Indiana.

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I felt that just at this season of the year, we would appreciate some abstracts relative to this subject. —H. F. G.

PUBLIC HEALTH

COMPARATIVE EFFICIENCY OF VARIOUS TECHNICS FOR THE DIAGNOSIS OF PROTOZOA AND HELMINTHS IN FECES, Ernest Carroll Faust, et al., Journal of Parasitology, 25—241-261, June, 1939.—

1. In order to determine their practical efficiency, various technics used for the discovery and diagnosis of protozoa and helminths present in feces have been critically tested on 271 fresh fecal specimens obtained from 242 individuals in children's homes and in medical clinics in New Orleans.

2. The following technics have been tested:

(1) direct fecal film, unstained and iodine-stained;
(2) a similar fecal film prepared from cheesecloth-stained feces;
(3) a similar fecal film prepared from wiregauze-stained feces;
(4) hematoxylin-stained direct fecal film;
(5) hematoxylin-stained suspension-serum fecal film;
(6) centrifugalization;
(7) zinc sulphate centrifugal floatation, followed by touch-removal;
(8) zinc sulphate centrifugal floatation, followed by loop-removal;
(9) hematoxylin-stained film prepared from material floated by zinc sulphate and removed by loop;
(10) brine centrifugal floatation with superimposed coverglass;
(11) for the first 73 specimens studied, zinc sulphate centrifugal floatation, with superimposed coverglass.

3. An analysis of the data obtained from this study has demonstrated that:

(1) Straining of a fecal suspension through cheesecloth or wiregauze does not impair the diagnostic qualities or reduce the diagnostic yield of parasites present in the fecal specimen. This knowledge has permitted the use of a strained basic fecal suspension to compare concentration technics.
(2) Trophozoites and precysts of intestinal protozoa were seldom found and then almost exclusively in direct fecal films.
(3) Iodine-stained or hematoxylin-stained fecal films detected only about 40 per cent of the Endamoeba histolytica infections found, and only 46 to 60 per cent of all species of protozoa. These same technics recovered less than ten per cent of the helminths.
(4) Centrifugalization alone has not been found to produce significantly higher percentages of diagnosis than the direct fecal films.
(5) Zinc sulphate centrifugal floatation, followed by touch-removal or loop-removal, doubled the yield of E. histolytica obtained by the direct fecal films, significantly increased the yield of protozoa, and recovered approximately 80 per cent of the helminths.
(6) Brine centrifugal floatation shrank protozoan cysts so badly that they were undiagnosable, although for helminths it approximated the efficiency of zinc sulphate.
(7) For protozoa, no combination of previously used diagnostic technics tested equalled the results obtained by the zinc sulphate technic alone. Except for the brine technic no combination reached 25 per cent of the yield of helminths obtained by the zinc sulphate technic in our lightly infected individuals.
(8) A combination of one of the direct iodine-stained or hematoxylin-stained fecal films with zinc sulphate centrifugal floatation, either by touch-removal or loop-removal, yielded 80 per cent for Endamoeba histolytica, 80 per cent for all protozoa and 85 per cent for all helminths found by all technics tested.

4. Because of simplicity in operation and high efficiency of yields for both intestinal protozoa and helminths, a combination of the direct fecal film (either iodine-stained or hematoxylin-stained) with zinc sulphate centrifugal floatation (either by touch-removal or, preferably, by loop-removal) is recommended for the clinical laboratory and in epidemiological surveys.

COMMENTS: The zinc sulphate centrifugal

floatation touch technic is used as routine in the laboratories of the Mississippi State Board of Health. In our hands the technic has proved to be more satisfactory in the examination of specimens mailed to the laboratory from a distance than any other technic. The diagnosis of protozoa in the cystic state only is readily accomplished if formed fecal specimens are submitted. See the MISSISSIPPI DOCTOR, 17-8-13, June, 1939.

— H. C. RICKS

UROLOGY

NEW ASPECTS OF RENAL PHYSIOLOGY, Homer W. Smith, J. Urology, V. 41, 1939.—It is now established beyond any question that the formation of urine begins in the glomerulus by the separation from the plasma of a protein-free filtrate, this passive, non-specific process of glomerular filtration being effected at the expense of the blood pressure in the glomerular capillaries. As this glomerular filtrate passes down the tubules a great fraction of the water, along with such valuable constituents as chloride, glucose, etc., are reabsorbed by the tubule cells and restored to the circulating blood.

But in addition to these processes of filtration and reabsorption, there is a third process, that is, the process of tubular excretion. This process of tubular excretion does not exclude the filtration of the excreted substance, but rather supplements it. It so happens that those substances which have proved useful in the empirical valuation of renal function are just those for which this process of tubular excretion is most highly developed, namely, phenol red (phenolsulphonephthalein) and the organic iodine compounds, diodrast, hippuran, and iopax, which are widely used for pyelography. Only about 6 per cent of the phenolsulphonphthalein in the "phthalein" test as ordinarily performed is excreted by the glomeruli, 94 per cent being excreted by the tubules.

The average renal blood flow in normal man, appropriately measured by the rate of excretion of diodrast, is 1300 cc. per minute, or about one-third of the average cardiac output (3800 cc. per minute). It is clear at the outset that since the kidneys receive such a large fraction of the cardiac output they must play a very important role in respect to problems involving the general circulation.

In this 1300 cc. of blood going to the kidneys, about 530 cc. are cells and 770 cc. are plasma. Out of the 770 cc. of plasma flowing through the kidneys each minute, 123 cc. of water are filtered through the glomeruli, as determined by the inulin clearance. The maximal urine flow during water diuresis is about 20 cc. per minute; the rest of the water in the glomerular filtrate (i.e., about 100 cc.) is reabsorbed under all normal conditions. The average minimal urine flow is about 0.3 cc. per minute, and is determined by the opposition which the urinary constituents, chiefly urea and NaCl, offer to the tubular reabsorption of water. Variations of urine flow between these two extremes, i.e., between 0.3 to 20 cc. per minute, are at least in part controlled by the antidiuretic hormone of the posterior pituitary gland, which accelerates the reabsorption of water by the troubles. Since the secretion of the antidiuretic hormone is under nervous control, the rate of urine formation (i.e., the rate of water excretion) may vary greatly under numerous circumstances, such as excitement, exercise, fear, posture, or in disease, and even after hypnotic suggestion, although these circumstances may not materially influence the central processes of urine formation.

We are faced then with the task of determining the capacity of the kidneys for excreting some substance other than water itself if we are to evaluate the integrity of these organs. In proceeding to this evaluation it is clear that the rate at which the kidneys excrete any substance (which they do not themselves manufacture) will be determined in part by the quantity of that substance carried to them by the blood per unit time. It is obviously unphysiological to ask, "How much urea, creatinine, etc., do the kidneys excrete per minute?" since this is obviously determined by how much urea or creatinine is delivered to them by the blood. And it is equally unphysiological to ask, "How much urea or creatinine is there in the blood?" In theory, all other things being equal, renal function must be reduced to 30 per cent of its normal value in order to raise the blood urea from 12 to 36 mg. per cent.

Rather must we ask, "How much blood is cleared of its urea, creatinine, etc., by the kidneys per unit time?" The rate of renal clearance of a particular substance is the physiologically important fact, not the absolute concentration of that substance in either blood or urine. The rate of renal clearance of any substance is directly given by dividing the quantity excreted per unit time by the quantity contained in each cc. of blood or plasma. Thus the normal urea clearance averages about 70 cc, the inulin clearance, 123 cc., the creatinine clearance 175 cc., the phenol red clearance 400 cc. of plasma per minute. In considering what substance or substances are best suited to be used for a renal function test, inulin appears to be the most dependable. But the determination of the inulin clearance is complicated by the fact that this substance must be administered by continuous intravenous infusion, since it is destroyed in the gastrointestinal tract. It is, however, the only reliable method of measuring glomerular filtration available at the present time, though it is hoped that simpler methods, suitable at least for general purposes, will be available soon.

In most disturbances of renal function, the urea clearance and the creatinine clearance will roughly follow the inulin clearance, since urea is wholly, and creatinine is largely, excreted by the glomeruli. This point is one that should be kept in mind in evaluating the usefulness of these tests.

As routinely employed, the phthalein test has several unsatisfactory features; variations in the rate of absorption after intramuscular injection and variations in the quantity of body fluid in which the dye is distributed after absorpton, lead to variations in the concentration of dye in the arterial blood going to the kidneys; while failure to collect accurate urine samples leads to apparent variations in the rate of excretion.

From this background of renal function tests, let me turn to a brief description of the control of the blood flow through the kidneys. So long as the tonus of the efferent and afferent arterioles remains unchanged, the renal blood flow will increase approximately in proportion to the mean arterial pressure, and the filtration rate (and therefore the urea and creatinine clearances) will increase roughly in proportion to the renal blood flow. But where the tonus of the renal arterioles is changed, the renal blood flow may vary quite independently of the arterial pressure; and, as we have pointed out above, if the change is in the efferent arteriole, the filtration rate (and urea and creatinine clearance) will vary inversely as the renal blood flow. It is clear, therefore, that the filtration rate cannot be used as a reliable index of renal blood flow.

The problem of renal blood flow assumes special significance at this time, in consequence of the demonstration by Goldblatt that renal ischemia in dogs, produced by the partial occlusion of one or both renal arteries, leads to a condition apparently identical with essential hypertension in man. It appears that the mechanism of this form of experimental hypertension is the liberation from the ischemic renal tissue of a humoral agent which exerts, either directly or indirectly, a constrictor action on the arterioles throughout the body. Whatever the mechanism, it is clear that hypertensive disease can be broken up into several categories, one of which contains those instances in which there is local inflammatory, suppurative or obstructive impairment of one or both kidneys, and a second category containing those instances of so-called essential hypertension, in which no local renal factor has as yet been demonstrated. Barker and Walters report an adult with unilateral chronic pyelonephritis with hypertension, whose blood pressure returned to normal after nephrectomy. Reduction of hypertension by nephrectomy in unilateral renal vascular disease is reported by Leadbetter and Burkland and Boyd and Lewis.

The promise contained in these reports that, where there is unilatral renal disease, the complication of hypertension can be alleviated or prevented by nephrectomy, and suggests that the application of methods more precise than the ordinary phthalein or indigocarmine tests to the determination of renal function, and more particularly to the differential determination of unilateral disease, would be well rewarded.

To return to hypertension, ten years ago Paunz demonstrated in the dog that a new blood supply to the kidney can be established by omentopexy, the new vascularization thereby effected being adequate to maintain urine formation after ligation of the artery of the operated kidney and even after removal of the unoperated kidney. This observation suggested that some relief might be afforded in essential hypertension by renal-omentopexy, and with this possibility in mind, 2 patients from the hypertension clinic of Dr. Goldring and Dr. Chasis, patients who had been previously examined in respect to the effective renal blood flow and the mass of tubular excretory tissue, were operated upon last June by Dr. Arthur Wright, an omentopexy being effected on one side only.

It is too early to draw any conclusions from these subjects. The immediate crux of the problem is whether or not such accessory circulation will establish itself in man as in the dog, and if established, whether it will suffice to maintain the integrity of the tubular tissue. These two subjects are being followed carefully to see if there is evidence of the development of such an accessory blood supply.

The clearance methods afford a means of measuring the filtration rate, the renal blood flow, and the total mass of tubular excretory tissue in the normal human kidney. Insofar as these methods have been applied to the diseased kidney, they have revealed marked disturbances of renal circulation which would not have been suspected from the use of previous methods, and I am confident that even though they present certain technical difficulties, the further application of these methods to medical and urological problems will be well rewarded.

COMMENTS: A better understanding of renal physiology allows us to understand better why it is so difficult to determine the exact function of the kidney. Of the various functional tests in use today, I believe the urea clearance test and the specific gravity test to be the most reliable. There have now been numerous case reports of reduction of hypertension following nephrectomy for unilateral renal disease. In some of the larger clinics, every case of so-called essential hypertension is being referred to the urological department to determine if there is any evidence of renal disease.

—T. A.

CENTRAL MEDICAL SOCIETY

The Central Medical Society held its semiannual meeting in the form of a postgraduate session, afternoon and evening of June 6. Members of the Louisiana State University Medical Center faculty presented the program, which began promptly at two o'clock in the convention hall of the Robert E. Lee Hotel.

This was one of the most outstanding meetings that the Central Medical Society has presented for the members of the medical profession of the state. The individuals appearing on the program are as follows: Dr. H. Theodore Simon, professor of orthopedics and fracture surgery; Dr. James W. Tedder, assistant professor of dermatology and syphilology; Dr. E. A. Socola, clinical professor of pediatrics; Dr. Edgar Hull, assistant professor of medicine; Dr. Urban Maes, professor of surgery; Dr. Peter Graffagnino, professor of obstetrics and gynecology; Dr. R. E. Arnell, senior assistant professor of obstetrics and gynecology; Dr. Hugh T. Beacham, assistant professor of urology. Dr. Rigney D'Aunoy, professor of pathology, was unavoidably detained and was unable to appear on the program.

There were 101 physicians attending the banquet and a large number came in to attend the scientific session following the banquet.

There were 101 physicians attending the banquet and a large number came in to attend the scientific session following the banquet.

There were representatives of the South Mississippi, Homochitto Valley, Issaquena-Sharkey-Warren, Winona District, East Mississippi, and Northeast Mississippi Medical societies present at the meeting.

On recommendation of the executive committee the Central Medical Society will not have meetings during July and August. Their next regular meeting will be held the first Tuesday in September in the convention hall of the Robert E. Lee Hotel.

COAHOMA COUNTY MEDICAL SOCIETY
AND
CLARKSDALE HOSPITAL MEDICAL STAFF

Minutes

The meeting was called to order in the dining room of the Alcazar Hotel immediately after lunch, June 14, 1939. The minutes of the previous meeting were approved and read. Election of officers for the second half of 1939 took place as follows:

Dr. E. L. Wilkins made a motion that the same officers be reelected for the second half of 1939. This motion was seconded by Dr. Post.

President—Dr. D. H. Griffin
Vice-president—Dr. C. Z. Ballard
Secretary and treasurer—Dr. J. L. Levy
Relations committee—Dr. E. L. Wilkins, chairman; Dr. D. H. Griffin, Dr. J. L. Levy.

A letter from the Works Progress Administration was read by the secretary regarding medical attention for employers of the Works Progress Administration injured in the performance of duty. Dr. S. D. Robinson made a motion which was seconded by Dr. T. G. Hughes that the rule in Mississippi has always been for the injured person himself to select his physician. A resolution which was prepared by Dr. Brandon, Dr. Hughes, and Dr. Wilkins, was then read by the secretary. Each member present was furnished with these resolutions. These were freely discussed by all members present.

Dr. Robinson made a motion which was duly seconded by Dr. T. M. Dye that a copy of these resolutions be sent to every member not present and the matter was tabled until our next regular meeting in July.

There being no further business the society adjourned.

Clarksdale, JULIUS L. LEVY, M.D.
June 14, 1939 Secretary-Treasurer.

COAST COUNTIES MEDICAL SOCIETY

At the regular meeting of the Coast Counties Medical Society held in Pascagoula June 7, Dr. Dodson, proctologist, of Mobile, was the guest speaker. Dr. Dodson's subject was "The Anatomical Structures Dealt with in Treating Ano-Rectal Diseases." He presented a most interesting treaty on rectal diseases and showed lantern slide pictures of various cases and tissues involved. He also explained the diagnosis and treatment of rectal diseases and gave the society a most interesting paper.

Our society is a most active one, having an excellent scientific program each month, and each meeting sees a large attendance.

Just recently Dr. G. O. Gunter from Blakely, Georgia, has moved to Biloxi to begin the practice of medicine.

Dr. F. O. Schmidt, president of the Coast Counties Medical Society, spent three weeks visiting various hospitals in the East and the New York World's Fair.

DESOTO COUNTY

We have published in this column the autobiography of several of our doctors and expect to get others to write a brief history of themselves. In this issue Dr. Charles Whitley Emerson, of Hernando, has complied with our request. It is not news in these parts to say that an Emerson is a Baptist and he is an active worker in this great Christian organization; a director of the Hernando Bank—a physician of no mean ability and a devoted family man.

AUTOBIOGRAPHY OF DR. C. W. EMERSON

I was born at Eudora, Miss., Desoto County, January 5, 1903, being the second child of Dr. Angus Leslie Emerson and Hattie Whitley. I was named Charles for my beloved uncle and Whitley for my esteemed grandparents.

I attended the Hernando High School. Bought my first pair of long pants to wear to college in 1918. Graduated from Mississippi College, B.A. degree, distinction, in 1922 at the age of 19. Member Company C, S.A.T.C.

Superintendent of Cascilla Consolidated High School, Cascilla, Miss., 1922-24. Attended summer school University of Tennessee, Knoxville, and Mississippi College.

Graduated from University Tennessee Medical School in 1928. Internship at Baptist Memorial Hospital, Memphis, Tenn. Undergraduate Internship Shelby County Hospital, Memphis. Postgraduate work at Childrens' Memorial Hospital, Chicago, and Tulane Medical School, New Orleans.

Since completing internship have been pleasantly associated with my father in the practice of general medicine at Hernando.

Have had the honor of being licensed minister, professor, lieutenant in Medical Reserves, county health officer.

Am a Mason, member of Rotary Club, Desoto County Medical Society, Mississippi State and Southern Medical associations. Theta Kappa Psi Medical Fraternity.

Married Margaret Dotson, daughter of Mr. and Mrs. Lou W. Dotson, West Point, Miss. Have two fine children, Margaret (Peggy) Emerson, and Charles Whitley Emerson, Jr.

* * * *

With Dr. J. P. Wall, of Jackson, as president, and Dr. W. H. Anderson, of Booneville, as president-elect, the Mississippi State Medical Association is in safe and competent hands. Both are men of vision and ability and we share the hope of assisting them in any way we can.

The ancient Greeks and Romans (and others of later date) regarded disease as a curse inflicted by supernatural powers, and sought rather to propitiate the malevolent deity than to organize the work of relief.

The items for the June issue of the MISSISSIPPI DOCTOR were duly written and corrected, posted to, then the editor, but for some cause failed to appear.

Dr. Leon S. Lippincott, of Vicksbur, who was editor for several years was always courteous and competent. Dr. Lawrence W. Long, of Jackson, a fellow member of the council, is alert and I am sure will conduct his work successfully.

Dr. and Mrs. H. M. Wadsworth, of Hernando, are the parents of a seven-pound girl born recently at the Baptist Hospital, Memphis. The young lady has been given the name of Eddie Mae Adell; this is their second child, the first is Henry Manley Wadsworth, Jr.

That the profession of nursing is a noble one, no one can gainsay.. An arduous and sacrificial career, the field of nursing has broadened including public health, industrial, school and private duty, also laboratory and anesthesia, etc.

TAKE NURSE PLEDGE

The graduates have long since taken the Florence Nightingale pledge—a pledge written by a Mrs. Gretter, a nurse, in 1893, and sometimes mistakenly credited to the woman in whose honor it was adopted—the English army nurse and philanthropist who was born in 1820, and died in 1910. The pledge is:

"I solemnly pledge myself before God and in the presence of this assembly to pass my life in purity and practice my profession faithfully. I will abstain from whatever is deleterious and mischievous and will not take or knowingly administer any harmful drug. I will do all in my power to maintain and elevate the standard of my profession and will hold in confidence all personal matters committed to my keeping and all family matters coming to my knowledge in the practice of my profession. With loyalty will I endeavor to aid the physician in his work and devote myself to the welfare of those committed to my care."

The first college clinic in the United States was established in 1840 by Dr. Willard Parker at the College of Physicians and Surgeons, New York.

The "boils" which were one of the plagues in Egypt, as mentioned in the Old Testament, were apparently the bubonic plague.

Rt. 4,
Memphis, Tenn.
June 13, 1939.

L. L. Minor,
County Editor.

NORTHEAST MISSISSIPPI THIRTEEN-COUNTY MEDICAL SOCIETY

The second quarterly meeting of the Northeast Mississippi Thirteen-County Society was held at Houlka on the thirteenth of June. It was one of the best and most enjoyable meetings in the history of the society. The scientific features of the program were good and interesting. Since the membership of the society is composed mainly of general practitioners and since the bulk of the work done by the members is strictly rural, it is fitting that the subjects presented for consideration and the discussions should be along the lines of general practice. The first paper, "Diagnosis of Dyspepsias," was presented by a young man—a new member, Dr. J. D. Dyer, of Houston. This paper was both timely and complete. It emphasized the nicer differential points and symptoms that should always be remembered and closely analyzed before and during treatment of these conditions. Dr. Dyer is associated with the staff of Houston Hospital and, we have no doubt, will prove a valuable member of this group. We are glad to welcome him into the profession and trust that he may become deeply interested in organized as well as scientific medicine. One of the best features of the program was a discussion of "Common Sense and Obstetrics", by Dr. C. E. Warde, of Memphis. Common sense in medicine (especially in obstetrics) is so rare that it might be referred to as **uncommon sense.** But Dr. Warde's discussion was crammed full of **sense**—good sense—whether it be classed as common or uncommon. This was Dr. Warde's first appearance on one of our programs. We shall be glad to have him visit with us again.

"The Treatment of Eye Injuries," by Dr. Armstrong, of Houston, was up to any standard of excellency. "Intra-Cranial Injuries" was presented by Dr. J. T. Doster, of Columbus. Dr. Doster is another new member, having recently moved into our territory and into Mississippi from Alabama. He has reached the age of maturity and he gave evidence that he has ability of unusual type. We are glad to have him in Mississippi, and especially are we glad to welcome him into membership in our district society. We expect much of him in the future.

Dr. J. T. Blake, of Jackson, gave a most excellent presentation of Colles' fracture. This injury is so frequent that it must be given prominent place in our thinking. No age and no social or economic group is exempt from constant liability to this injury. While simple Colles should never be followed with bad results, this, unfortunately, is not always true. Again, there are complications that frequently attend this fracture that make an apparently minor injury a very grave and serious matter. Dr. Blake left no room for excuse for negligence on the part of the doctor. On the whole, it was a most excellent program.

But the social features of the meeting were so unique we hesitate to try to discuss them. This port of the meeting was strictly given over to the honor of Dr. W. C. Walker. The occasion was a celebration of Dr. Walker's eightieth birthday. Dr. Walker is a most unusual type of man. He, in every sense of the word a gentleman, has spent his entire life in the community where he still lives, having practiced medicine in Chickasaw County for fifty-nine years. We feel sure every man or woman and child in the county is glad to be called his friend. The reason is not hard to find. He has "lived by the side of the road and has been a friend to man." The banquet was spread for several hundred in the new gymnasium—a spacious and splendid annex to the Houlka school buildings. The food served was very good. The ladies serving it were very gracious. The address of welcome, delivered by Dr. Hood's young daughter—just in her teens—was most appropriate and eloquent. Dr. Acker, in response, voiced the sentiments of the membership in a most fitt and eloquent way. If Dr. Acker would turn himself "loose," we might soon recognize him as our ablest speaker, as we already regard him as one of our most representative members. The music was excellent. Governor White, the principal speaker, was in his best form. We have never heard him do so well. It may be that the subject was of higher plane. He paid high and deserved tribute to Dr. Walker and, since politics was taboo, every thing was sweet and all went "merry as marriage bells." There were other speakers, of course. But we shall mention none other than Dr. Rowland. Dr. Rowland told Dr. Walker that he was but one lap behind him in the mad rush through life. He paid high and eloquent tribute to Dr. Walker, but in it all there was a note of sadness and regret that the "good days" were gone and might never return. Dr. Rowland, too, is one of nature's noblemen and his influence will live long after he has gone the way of all mankind. The Woman's Auxiliary, of which group Dr. Walker is a member in good standing, was also active in paying honor to Dr. Walker. There were many letters and telegrams read—all of which were most complimentary to Dr. Walker. The Thirteen-County Society presented a gold chain and fob as an expression of its esteem and love. The Pontotoc County Society sent an offering in the coin of the realm. (In accepting this gift Dr. Walker said he believed in "sweets for the sweet" and therefore would spend this money buying cream and candy for the girls). The Auxiliary also gave a most appropriate gift. All in all, it was Dr. Walker's day. May his days be long in the land and may his tribe increase.

— G. S. B.

MEDICAL SALVATION FOR RURAL COMMUNITIES

The editorial appearing below was submitted by one of the best thinkers in the state and it is deemed very timely that it be published at this time.

"In his presidential address at Gulfport, Dr. Green made the following statement:

" 'The medical need today is not more hospitals and clinics but more doctors well trained in the science and art of healing, who are willing to make the sacrifice that their fathers made. Practically all the young doctors of today shun the country and seek and the city for a location. The blame cannot all be placed on them however; for during their entire medical training their thoughts have been moulded to steer clear of country centers.' To all this your correspondent wishes to utter a hearty **amen.** For more than a decade we have been insisting that hospitals and hospital care are being over-sold to the public. Many doctors are sending, unnecessarily, much of their best work away from themselves to some hospital—putting these sick people into the hands of aliens who are no better able to care for them than are they. We know of numerous rural communities inhabited by splendid white people who are home owners and debt payers that are without doctors and consequently do not and cannot get adequate medical care. And the only reason for this is that the doctors who formerly served these people have died and the recent medical graduate passes up splendid locations and settles in towns and cities that are already crowded with doctors. The reason for this is that they have not been taught how to practice medicine outside of hospital wards. These young men are fine fellows—well versed in the theories underlying medicine but I fear have not been taught enough about human beings. They, I fear, have not been made to see the difference between treating **disease** and diseased **people.** They have **not** been taught that there is very little that can be done for disease but much that can be done for sick **people.** Again, far too many young doctors aspire to be **specialists** and far too few are striving to be **physicians**. I once heard Dr. Will Mayo say that it takes **eight** specialists to make **one** doctor, and on the other hand when you have made **one** doctor you have the equivalent of **eight** specialists. This writer believes in hospitals—and in interneships—and above all in nurses, **good** nurses who have been properly trained. He spent time serving an apprenticeship in a private hospital, under the direction, supervision and instruction of men who were keenly interested, both in him and the patients. He was required to spend **much** time observing the patients and but **little** time scanning sheets of paper with notations made by young girls in training. He was taught what to do and how to do it after he had gone **away** from hospitals. He watched and assisted in emergency surgery done in homes and on improvised tables—surgery done by the flickering light of kerosene lamps. He saw and assisted in deliveries in homes under emergency conditions. While this writer has learned how to do many things that had never been attempted at the time of his graduation, he was taught what to do (and how to do it) for sick and injured people wherever they might be found. This writer is happy in the thought that he was able to take some small part in the elevation of medical standards back in the days when D. J. Williams, W. L. Little, John Darrington and he were younger than they are today. Still he wants to join past-president Green in his word of warning concerning the tendency of the times and the danger in the teaching now given to our splendid young men; for these young men are the hope of medicine and the guardians of the health of future generations."

June 8, 1939 —G. S. B.

THE SOUTH MISSISSIPPI MEDICAL SOCIETY

The regular meeting of the South Mississippi Medical Society was held in the Forrest Hotel in Hattiesburg, Thursday, June 8, 1939 at 3:00 P.M. The meeting was called to order and the following officers took over for the coming year: president, Dr. H. C. McLeod; first vice-president, Dr. V. B. Martin; second vice-president, Dr. P. E. Smith; secretary, Dr. V. C. Temple; medico-legal advisor, Dr. T. E. Ross.

The president appointed Drs. J. E. Green, J. W. Stringer, and W. P. Gray to act as program committee for the Laurel meeting. It was announced that the September meeting of the society will be held at Stafford Springs in a joint session with the East Mississippi Medical Society. The following scientific program was heard.

Acute Traumatic Subcutaneous Injury of Abdominal Viscera—Dr. I. Mims Gage, New Orleans, La.

Chronic Cervicitis—Dr. Eugene H. Countiss. New Orleans, La.

Report of a Case of Abdominal Pregnancy—Dr. Nollie C. Felts, Hattiesburg, Miss.

Following adjournment dinner was served in the hotel.

FIRST COUNCILOR DISTRICT

The First Councilor District is composed of two active medical societies:

(1). Clarksdale and Six Counties Society, including Coahoma, Tallahatchie, Tunica, Quitman, and part of Bolivar counties.

(2). The Delta Medical Society, including Bolivar, Humphreys, Leflore, Sunflower and Washington counties.

The Clarksdale and Six Counties have 71 paid-up members. President, Dr. W. H. Williams, Tunica; Secretary, Dr. E. LeRoy Wilkins, Clarksdale.

The Delta Medical Society has 117 paid-up members. President, Dr. G. Y. Gillespie, Greenwood; Secretary, Dr. F. M. Acree, Greenville.

Five doctors have transferred their practice to other localities. Two new doctors have come to Greenville. Lost by death, Dr. S. L. Brister, Greenwood.

Both societies are functioning nicely. They offer instructive programs and interesting and enjoyable entertainments; consequently, they draw full and enthusiastic attendance, making every feature satisfactory. No damage suits pending to disturb our equilibrium or to mar our poise, therefore we are of one accord.

—J. W. LUCAS, Councilor.

TRI-COUNTY MEDICAL SOCIETY

The Tri-County Medical Society met at Tylertown, Miss., Tuesday, June 13, 1939, with a full attendance.

After dinner at the Walthall Hotel the following program was presented:

"Dysenteries in Children"—J. J. Pittman, M.D., Tylertown, Miss.

"Bronchiectasis"—O. W. Bethea, M.D., New Orleans, La.

"Care of Traumatic Wounds"—Neal Owens, M.D., New Orleans, La.

The following resolution was adopted:

WHEREAS, There is now a bill before Congress generally known as the Wagner Health Bill, and

WHEREAS, We feel that this bill will interfere with the free practice of medicine, and

WHEREAS, We believe that such interference will have the effect of rendering medical service less efficient, therefore be it

Resolved, That the Tri-County Medical Society (composed of physicians from Copiah, Lawrence, Lincoln and Walthall counties) go on record as being unalterably opposed to this legislation.

That copies of this resolution be sent to the senators and congressmen from Mississippi.

MISSISSIPPI STATE BOARD OF HEALTH

At the meeting of the Mississippi State Medical Association in Gulfport, May 9, 10, 11, Dr. Felix J. Underwood and Dr. Harvey Garrison, Sr., of Jackson, made a report to the House of Delegates of the proceedings of the House of Delegates of the American Medical Association in San Francisco last June and of the proceedings of the special session of the House of Delegates of the American Medical Association in Chicago last September. Mimeographed copies of these are available.

* * * *

Two-day regional syphilis institutes for public health nurses were conducted in five Mississippi towns during May by Dr. D. V. Galloway, Supervisor of Venereal Disease Control, and Miss Donna Pearce, R.N., Regional Public Health Nursing Consultant, U. S. Public Health Service, New Orleans, Louisiana. Held in Jackson, Tupelo, Meridian, Hattiesburg and Greenwood, the institutes reached public health nurses from every section of the state. Purpose of the institutes was staff education for expert handling of syphilis control problems.

* * *

Speaking on the subject, "How to Create A Conscious Need for Rural Sanitation," Dr. Underwood addressed the Rural Community Conference at State Teachers' College, Hattiesburg, on May 12. Dr. Underwood pointed out the great progress made in rural sanitation during recent years, but cited the crying need for additional sanitary privies, pure well water supplies, widespread screening, and improved school sanitation in rural sections of Mississippi. He explained that lack of sanitation and medical facilities is altering year by year the relative healthfulness of town and country. "The increase in expectation of life at birth since 1900 has been about 60 per cent greater among persons living in urban than among persons living in rural communities," he said.

* * * *

As a delegate of the State Medical Association, Dr. Underwood attended with Dr. Harvey Garrison, Sr., the meeting of the American Medical Association in St. Louis, Missouri, May 15-18. Drs. Underwood and Garrison were guests at a special luncheon given by Dr. Alphonse McMahon honoring Dr. Walter E. Vest, president of the Southern Medical Association, on May 18 at the Hotel Jefferson.

* * * *

Plans for the 1939 meeting of the Mississippi Public Health Association got under way on May 20 when the Executive Committee of this organization met in Jackson and discussed the forthcoming program. The conference will be held December 6, 7, and 8, in Jackson.

Members of the Executive Committee are the following: Dr. F. Michael Smith, Vicksburg, president; Dr. W. H. Cleveland, Tupelo, president-elect; H. A. Kroeze, Jackson, vice-president; Dr. J. A. Milne, Jackson, secretary-treasurer; Dr. Felix J. Underwood, Jackson, representative of the board of health. Section chairmen, Dr. C. R. Gillespie, Indianola, administrative; Mrs. Josephine Jones, R.N., Meridian, public health nursing; T. F. Durham, Jackson, vital statistics; J. A. Ledieu, Cleveland, laboratory; Miss Sarah Hill, Jackson, dental hygiene; Miss Eleanor Steele, Indianola, clerical.

* * * *

"Mississippi is classed as one of the leaders in mouth health," Dr. George Evans, secretary of the State Dental Association, told the staff of the State Board of Health in conference May 13. Featured speaker of the conference, Dr. Evans discussed "Recent Trends in Preventive Dentistry," and told of his observation trip last year to outstanding centers of preventive dentistry in Chicago, Rochester, Boston, New York City, and Atlanta.

"With the exception of colds, tooth decay is the most frequent physical defect among children," Dr. Evans said, "and 90 per cent of children's mouths are defective." He recommended for this condition proper nutrition of the expectant mother and the child in early life and adequate and early care for detection of defects.

Dr. Evans stated that thumb-sucking is a frequent cause of deformity of the teeth and bite, and demonstrated a painless and humane device which is successful in breaking the habit in children.

Dr. J. A. Milne pointed out great progress in mouth health in the general allaying of fears in children of dentists and dental work. Mr. H. A. Kroeze, sanitation expert, cited plans for construction of a purifying plant for water containing flourine, which causes a mottling of the enamel of the teeth and prevails in the eastern section of the state.

The conference was in charge of Miss Gladys Eyrich, Supervisor of Mouth Health.

* * * *

The most nearly perfect food in the world may be a source of great danger, Dr. N. M. Parker, milk specialist, warned as he conducted the semi-monthly staff conference of the State Board of Health May 27.

Milk is the only animal food consumed raw with the exception of shellfish, Dr. Parker said, and may be full of dangerous bacteria unless the greatest care is taken in its handling.

He called education of dairy owners and workers and the demands of an "enlightened" public health the greatest weapons in the production of safe, wholesome pasteurized milk.

Demonstrating a model miniature privy for dairies, Dr. Parker explained that open privy seat lids lower the grade of milk produced by any dairy. He exhibited a "fool-proof" means of keeping the privy lid closed, and explained that dangerous contamination of milk by flies straight from the privy was thus eliminated.

Dr. J. A. Milne, Director of County Health Work, Dr. A. L. Gray, Director of Preventable Disease Control, and Mr. H. A. Kroeze, Director of Sanitary Engineering, discussed milk sanitation from the point of view of their respective positions, each urging the value of education regarding the consumption of pasteurized milk.

* * * *

Staff members of the State Board of Health assisted in a program of health education carried on in connection with an institute for Negro women conducted by the Mississippi Synodical Auxiliary of the Presbyterian Church at Jackson College, May 25-31.

Approximately 100 teachers and Negro women leaders from all over the state attended the institute. Board of Health speakers covered health problems outstanding among the Negro race as follows: May 26, Nutrition, Miss Marie Jordan, R.N., Hinds County Health Department; May 27, Mouth Health, Miss Gladys Eyrich, Supervisor of Mouth Health; May 29, Syphilis, Dr. D. V. Galloway, Supervisor of Venereal Disease Control; May 30, Environmental Sanitation, H. A. Kroeze, Director of Sanitary Engineering; May 31, Tuberculosis and the Negro, Miss Eleanor Hassell, Assistant Supervisor of Health Education.

* * * *

The educational program of the State Board of Health is being broadened to include a more widespread use of health films. Six new health films for 16 mm. sound projectors have been acquired and are available for schools, county health departments, and other groups who have sound projectors. New films are: "Let's Open Our Eyes," "Three Counties Against Syphilis" (for professional use), all on syphilis, and "Behind The Shadows," "Let My People Live," and "On The Firing Line," all on tuberculosis. The tuberculosis films were made available to the State Board of Health through the courtesy of the Mississippi Tuberculosis Association.

Movies offer an "excellent medium" of health education, Dr. Underwood points out, because they picture health facts in graphic, interesting, and often dramatic style, "making them stick in the memory." Stressing the importance of visual education, Dr. Underwood says that practically 85 per cent of all information and knowledge are obtained through the eyes.

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H. A. Kroeze, Director of Sanitary Engineering, addressed the junior and senior classes of mechanical engineering at Mississippi State College, May 10. An outline of the engineering practices of the State Board of Health was given the students.

* * * *

A summer scholarship to the University of Michigan was awarded during May to Nettye M. Perkins, Negro public health nurse in Hinds County. One of three scholarships made available to outstanding colored nurses in the United States, by the National Tuberculosis Association, the award was handled through the Mississippi Tuberculosis Association. The colored nurse will have intensive training in public health measures against tuberculosis, which is a leading disease problem in Hinds County and Mississippi.

* * * *

Dr. R. B. Austin, of Forest, was appointed part-time health officer in Scott County during May to fill the unexpired term of Dr. W. E. Anderson, who moved to Dyersburg. Tennessee. Dr. Austin is a graduate of Tulane Medical School and has practiced medicine in Forest for a number of years.

* * * *

Nine times in nineteen years is the record of conviction of a Warren County quack, who has been peddling a "cure-all" remedy in Mississippi during this time. On release after each sentence, the quack has persisted in returning to his illegal practice, and each time, the Board of Health has persistently returned him to jail. It is believed by Board of Health officials that the quack will eventually be "cured" of his "cure-all" tendencies.

* * * *

Appointment of Dr. R. J. Jones as Director of the Southeastern Health District was announced during May by Dr. J. A. Milne, Director of County Health Work. The district is composed of George, Perry and Stone counties and started functioning March 1 of this year, with Dr. J. W. Duggar as acting director. Dr. Jones has just returned from a year's public health study at Johns Hopkins, prior to which he was director of the Pearl River County Health Department at Poplarville.

* * * *

"The most complete and business-like report received from any state in the Union" was the comment of the National Foundation to Fight Infantile Paralysis regarding Mississippi's Celebration of the President's Birthday, of which Dr. Felix J. Underwood was chairman. Seventy-five counties in Mississippi had successful birthday ball celebrations this year, the funds of which will be used to fight dread poliomyelitis.

* * * *

Congratulations on its vital statistics record have been received by the State Board of Health from the U. S. Census Bureau in Washington. "With one or two possible exceptions it is not believed that any state south of the Ohio or west of the Mississippi can equal your showing, and not over a dozen states in the entire nation equal it," W. H. Lackey, special agent from the Bureau of Census, told Dr. Underwood and Dr. Whitfield. According to Mr. Lackey, the efficiency of the work in procuring registration has been greatly enhanced by the reorganization of the old local registrar system into the new system of one registrar to a county. Five district meetings of vital statistics workers are being held during June in the interest of efficient registration. Meetings are being held in Oxford, Greenwood, Newton, Hattiesburg, and Brookhaven.

* * * *

Assistance of an assistant surgeon of the U. S. Public Health Service in Mississippi's program of venereal disease control starts June 24, when Dr. Paul T. Erickson begins work in the state.

Dr. Erickson has had prolonged experience in the darkfield examination of primary syphilis, and will instruct health officers and laboratory workers in this procedure. In addition, he will relieve county health officers who leave the state for postgraduate study and assist in the administration of the venereal disease program.

* * * *

Dr. J. R. Heller, surgeon of the U. S. Public Health Service in New Orleans, spent two days in May conferring with Dr. A. L. Gray, Director of Preventale Disease Control, Dr. D V. Galloway, Supervisor of Venereal Disease Control, and other public health officials regarding Mississippi's venereal disease control program. Mississippi has the highest rate of syphilis infection in the Union, this being true because more than 50 per cent of our population are colored.

* * * *

Appearing on the State Board of Health radio program during May, conducted from 8:30 to 8:45 each Saturday morning over WJDX were the following:

May 6. Dr. A. R. Perry, Director, Jones County Health Department, Laurel—"Mississippi Menace."

May 13. Dr. H. L. McCalip, Director, Yazoo County Health Department, Yazoo City—"The Value of Maternal Care."

May 20. Dr. Felix J. Underwood Executive Officer, State Board of Health, Jackson—"Eating for Health."

May 27. Dr. A. L. Gray, Director, Preventable Disease Control, State Board of Health, Jackson—"Summer Health Insurance."

EDITORIAL INTENDED FOR JUNE

The recent session of Mississipi State Medical Association which convened at Gulfport May 9, 10, and 11, was one of the best. The attendance was large—the program was interesting and informative—on the whole the weather was ideal—the welcome and entertainment extended by the coast members and citizenry was gracious and delightful. A spirit of progress and fraternalism pervaded the atmosphere during the entire time. On one point, only, did there seem to be a line of cleavage or disagreement. Even at this point there was evident a spirit of give and take—or rather the spirit of democracy prevailed. Once each year the old ship is placed in the hands of a new "master" and "mate." With Percy Wall as master and W. H. Anderson as mate, all is well and the future is certain. Never in the history of the Association has more wisdom, energy and patriotism been available for a safe voyage. And we feel sure that never in the history of the organization has there been more willingness on the part of its membership to help and support those who are, temporarily, in command. The scientific program was abreast of any such program we have followed. Among the visiting essayists that honored us by their presence and teaching, we shall mention Dr. Padgett, of Baltimore, and Dr. Bethea, of Tulane. Dr. Padgett covered the field of syphilis in a very comprehensive way and Dr. Bethea emphasized the newer concepts of treatment of pneumonia. Both of these lecturers were masterly. Personally, we were sorely disappointed in that Dr. Heffron, of New York, could not meet his engagement to appear on the same program with these afore mentioned speakers. He, Dr. Heffron, was to have spoken on "the public health aspects of pneumonia." Perhaps no man is better able and prepared to discuss this phase of this most important question than is he. Dr. Ochsner was there. No more is necessary to be said, for where Dr. Ochsner is wisdom and up-to-date medical teaching are sure to be. But according to our thinking, a new and brilliant star has been made to shine across our way. Dr. Carlton Ernstene, of the Cleveland group, gave a most splendid presentation of heart and coronary conditions. This group of conditions is, indeed, the great captain of the men of death today. Dr. Ernstene is a young man in point of years but he is profound in understanding and splendid in exposition. We trust that we may see more of him in the future. Beyond and above the scientific features of the meeting might be mentioned the social contacts and strengthening of ties of friendship that bind so many of us in "bonds of love." Personally, such meetings with such friends supply us with needed inspiration and courage to carry on. One feature of our meetings that cannot be understood and appreciated by all is our annual "past presidents" luncheon. This function, though entirely informal and devoid of outside interest and importance, is indispensable with the membership of the club. To be privileged to hear the moralizing of Dr. P. W. Rowland—the eloquence of Dr. C. D. Mitchell and the wit and wisdom of Dr. John Darrington, is a feast "fit for the gods." In addition to these *bon mots* is the wonderful feeling of comradeship and confidence that has grown up between the members of this group. Drs. D. J. Williams and E. C. Parker were joint hosts on this occasion. Needless to say the "job" was well done.

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Another feature of this meeting (as well as all others) was the delightful privilege of meeting the wives of many of these "comrades in arms." We always look forward to seeing Mrs. D. J. Williams, Mrs. E. C. Parker, Mrs. Henry Boswell, Mrs. John B. Howell, Mrs. W. C. Poole, Mrs. Harvey Garrison, Sr., Mrs. Sydney Johnson, Mrs. W. W. Crawford, Mrs. W. L. Little, Mrs. Percy Wall, Mrs. W. H. Anderson, Mrs. V. B. Philpot and many others. All of these we are proud to call our personal friends. But at this particular point we pause to brush away a tear and to breathe a sigh of bereavement; for we missed, very sorely, the presence of two very dear friends and will evermore miss them on these gladsome occasions. The sense of loss is so keen and the affection with which we cherish their memory is so sacred that we speak the names of Mrs. Darrington and Mrs. Frizell, only in subdued whispers. May the husbands of these departed ones be comforted in the knowledge that their friends join them in their sorrow. May the husbands of these departed ones be comforted in the knowledge that their friends join them in their sorrow. May the coming year be one in which every member of our association will think more and strive harder to promote the interests of organized medicine than ever before; for we fear there are troublous times ahead. In this world and day of change and revolution we may expect to face many propositions and conditions in which the best interests of all will be threatened and endangered by the conflicting interests of selfish individuals. Let us remember, still, that in union there is strength. Let our motto and purpose be "each for all and all for the sick and suffering."

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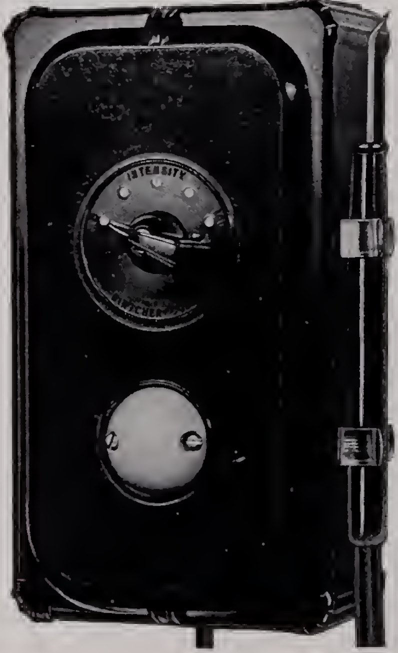

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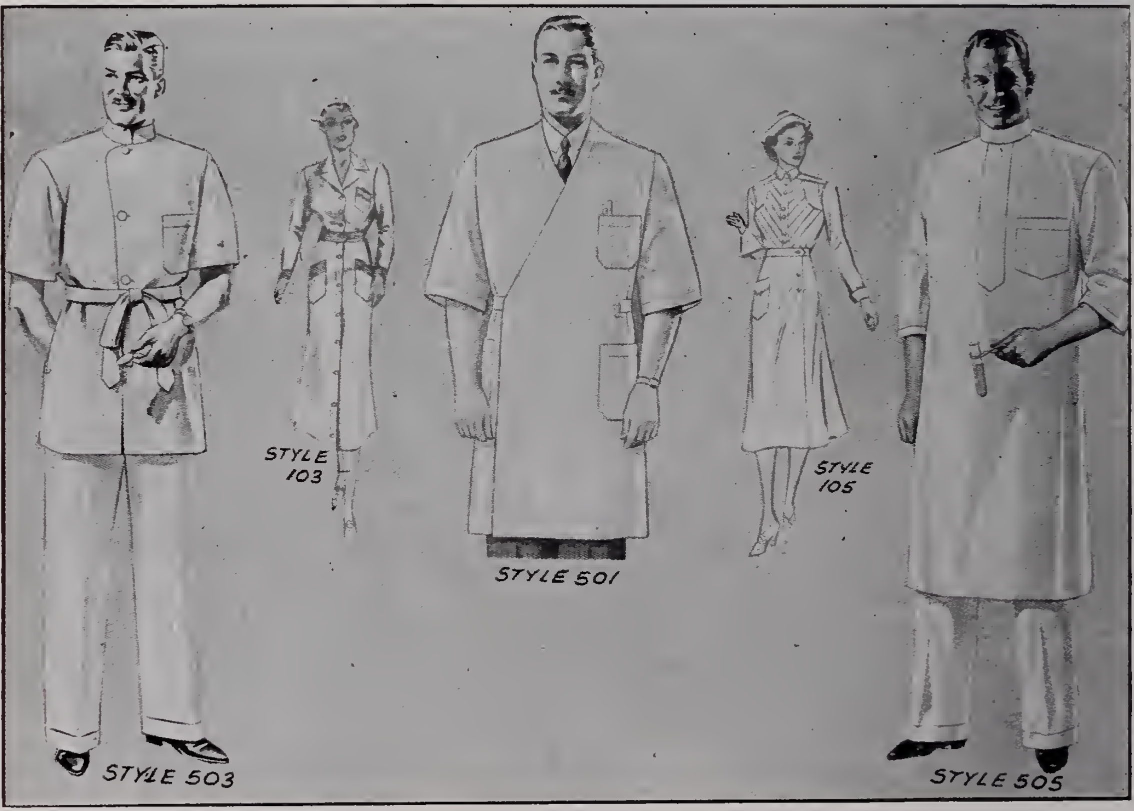
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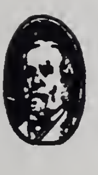

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—Martial.

Everyone is bound to bear patiently the results of his own example.
—Phaedrus.

Whom they have injured they also hate.
—Seneca.

Who overcomes
By force, hath overcome but half his foe.
—Milton.

Old friends are best. King James used to call for his old shoes; they were easiest for his feet.
—Selden.

Things without all remedy
Should be without regard; what's done is done.
—Shakespeare.

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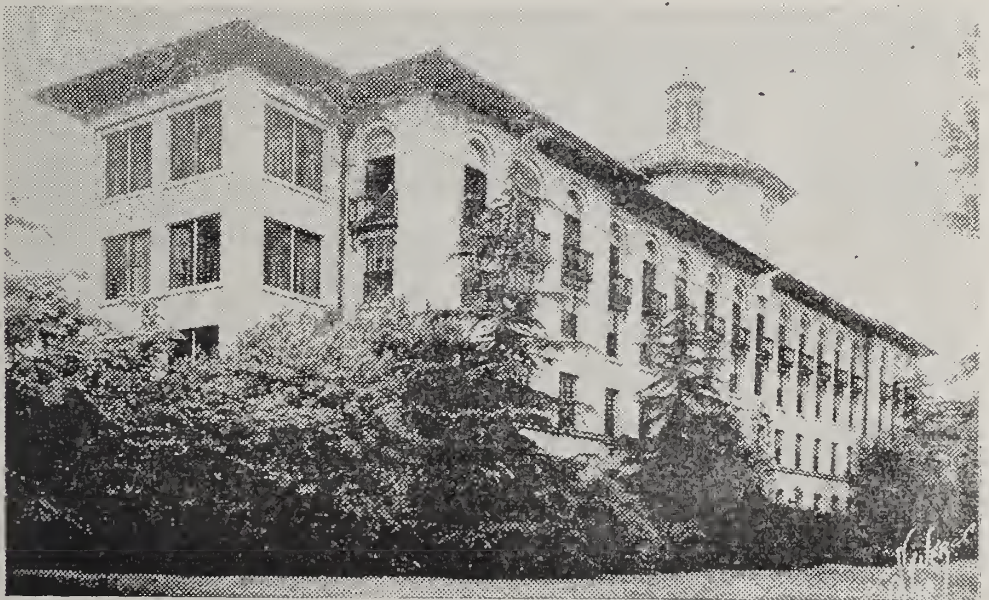

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The Surgical Treatment of Malignant Disease of the Pharynx and Larynx and Its Results*

HENRY B. ORTON, M. D.
NEWARK, NEW JERSEY

TO THE Committee of the Mid-South Postgraduate Medical Assembly—my sincere and heartiest thanks for their kind invitation to come to Memphis. I consider it an honor to have the opportunity of addressing this prominent assembly of Mid-South medical men.

There is an enormous amount of material on the subject that I have chosen, and I wish to avoid undue emphasis upon any particular method of treatment. Surgery, electro-coagulation, radium and roentgen-ray therapy, all play a part in the cure of this dreaded disease. However, we have not yet reached the point where we can speak definitely as to surgery or irradiation, or both. It is the individual opinion and experience of the operators, bearing in mind the site, grade of growth, general condition of the patient, and after care that means success or failure.

As Colledge[1] said, "The introduction of irradiation has rendered the problem of treatment of various situations definitely more complicated, because the results of its use are neither so good that the method can claim to supplant simple surgical treatment altogether, nor so bad that they can be dismissed as negligible."

All things being equal in malignancy of the pharynx and larynx, if surgery is chosen, then the operation best suited to the site and extent of the growth must be done; if irradiation, then the type and method of application must be settled. My aim today is to indicate what can be expected from surgery, leaving to others to say what can be expected from irradiation.

EPITHELIOMA OF THE LOWER LIP

The local lesion may be treated with surgery or irradiation. In early small lesions a "V" shaped excision of the disease will cure 95% of all cases. When the growth is more extensive, some plastic repair should be done at the time of operation. When we have a neglected case with tumor supplanting a large part of the lip, surgery or irradiation to destroy growth, followed by repair, is the procedure of choice.

I agree with Kennedy[2] when he states that conservative treatment demands the removal of the lymph drainage area whether or not metastatic involvement of the lymph is evident. When there is no clinical evidence of metastasis, he believes that block excision of the submental and submaxillary nodes is sufficient. If involvement of the submental and submaxillary nodes is present, no arrest of the disease can be expected from this limited operation. A more extensive excision must be undertaken. If nodes are not palpable, or, if the surgeon does not believe palpable nodes contain metastasis, a block dissection of the submental area of one or both submaxillary regions should be done at one operation. If metastasis are found in this dissection, further dissection to the omohyoid should be done. Any operation with fixed nodes should be considered experimental and palliative only, otherwise these patients should have radiation therapy. The mortality is about 4% but naturally, when too much surgery is done at one time, the mortality goes up.

EPHITHELIOMA OF THE CHEEK

The excision of malignant tumors of the cheek by means of diathermy by way of buccal approach was unsatisfactory in my hands until I followed the procedure of Patterson[3], namely, that of making a skin deep incision from the lower edge of the pinna to the symphysis menti and reflecting the skin flap forward by careful dissection until the area of reflected skin is greater than the area affected by the tumor. He then ligatures the facial artery and vein and, if necessary, removes a portion of the Masseter muscle and ascending ramus of the jaw. Having protected the skin flap by packing beneath it a quantity of ribbon gauze, he then proceeds to perform a diathermy excision of the tumor by way of the mouth, which is gagged widely open and illuminated by a head lamp. Finally, he replaces the skin flap and sutures the wound. Patterson has no operative mortality, and some of his patients have survived operation for a period of over ten years. I have had no operative mortality with this operation and strongly advocate it as the procedure for this type of growth.

---

*Read before the fifty-fourth annual session of the Mid-South Postgraduate Medical Assembly, Memphis, Tennessee, February 14 to 17, 1939.

LYMPHO-EPITHELIOMA

Cases have been described as occurring in the hypopharynx and in the tonsil. Patients usually present themselves late for treatment, and generally by that time metastasis has taken place. Lymph node metastasis has been constant in most cases; usually upper deep cervical are involved and present a bulky mass. Absolute diagnosis is made by biopsy. Surgical extirpation holds little or no hope of cure; therefore, some form of irradiation is used. Untreated cases run their course in two to three years. Treatment by x-ray should produce very rapid local regression. Having obtained good immediate results, local recurrence is unlikely; and, if they pass the three year limit without metastasis, the outlook is good. This condition is entirely different from squamous cell type.

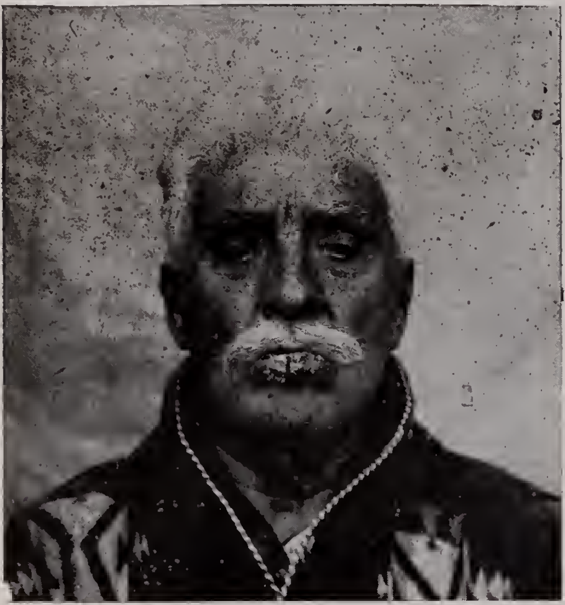

Fig. I. Carcinoma of the entire lower lip.

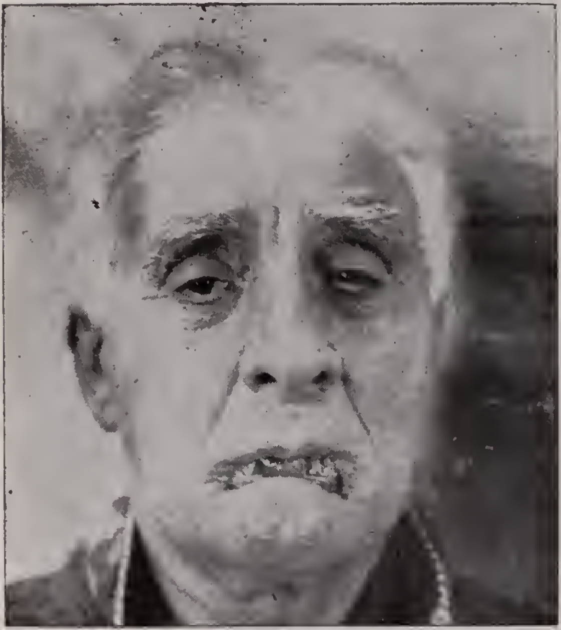

Fig. II. After removal of lower lip and before plastic repair.

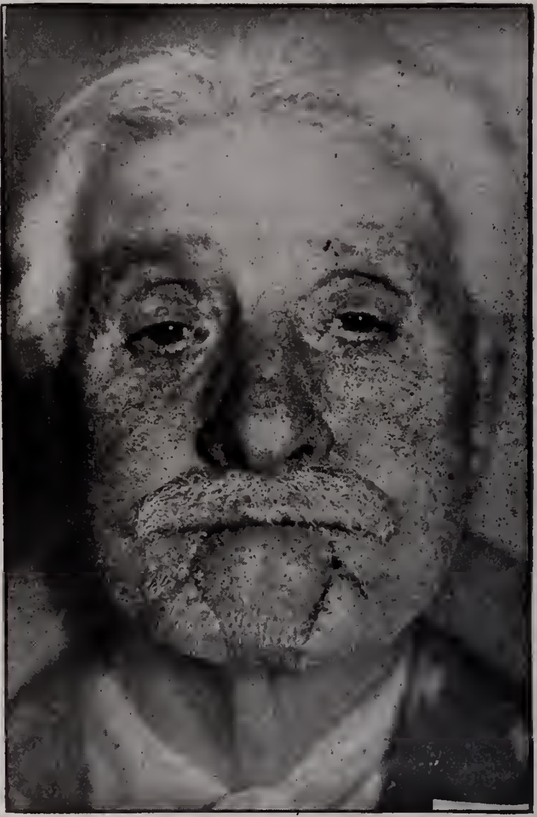

Fig. III. Patient after plastic repair of lower lip.

EPIDERMOID CARCINOMA OF BUCCAL MUCOSA, which includes anterior pillars, tonsil, upper and lower gingival mucosa, palate, tongue and floor of the mouth.

Lund[4] lays great stress on the selection of patients for curative treatment.

1. Those in whom an attempt will be made to cure.

2. Those in whom palliation only will be attempted.

When cancer is adherent to the upper or lower jaw, x-ray examination of this bone is indicated to demonstrate the amount of direct extension. General hygiene of the mouth must be achieved before starting any course of curative treatment. A clean surgical excision by endothermy probably gives the least painful convalescence. Diathermy, combined with surgical excision is absolutely the method of choice. If there is invasion of the jaw, a wide resection will be followed by cure in many of the cases.

Colledge[1] says that when the growth is small with no fixation and no glands in the neck, the tumor may be removed with diathermy. If glands of the neck must be removed, this should be done one to two weeks before diathermy removal of growth.

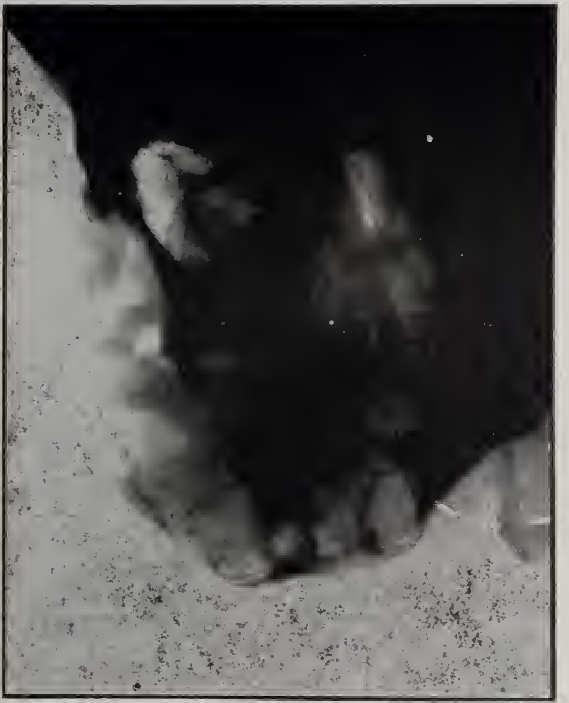

Fig. IV. Adamantinoma. Roentgen-ray picture of adamantinoma of lower jaw showing the cystic degeneration. Three-fourths of lower jaw was resected.

With the type of growth beginning low down on pillar of tonsil or between tonsil and tongue, so that tongue, pillar and tonsils are involved, much can be done by surgical diathermy. When tongue and floor of mouth are involved, the attack can be made by anterior translingual pharyngotomy, which may be classed as formidable surgery. Granting this is so, my opinion is that we will not get anywhere with conservative, procrastinating surgery. We would not expect an abdominal surgeon to do a submucous resection of gastric carcinoma in place of a partial or complete gastrectomy. Why should we laryngologists be ultra-conservative in dealing with malignancies in our field?

Dickie[5] reports eight patients survived from five to eleven years after partial resection of the jaw en mass, followed by careful reconstruction.

Treatment by irradiation is attractive because when successful, the pharynx is almost normal, but the question remains whether in treating epithelioma it gives a sufficiently high proportion of lasting good results to displace surgery.

TREATMENT OF THE LYMPHATIC GLANDS IN CASES OF MALIGNANT EPITHELIAL TUMORS OF THE ORAL CAVITY

Early radical surgical intervention is the treatment of choice in the attack on the local lymphatic drainage of the malignant growths of the lips and cheek. For this class radiological treatment should be reserved for those patients in whom there is a definite contraindication to operation, or for those in whom the lymph nodes are inaccessible to surgical attack.

It is often impossible to tell by clinical examination whether glands palpated in the neck are actually involved by cancer or not. One must state positively that if a patient has cancer in the glands, his only important chance of cure is by surgery. Radical operation is defined as an adequate local excision by knife cautery or endothermy, plus a neck dissection which includes the removal on one side, of the submaxillary gland, submental gland, the greater portion of the sternomastoid muscle and of the internal jugular vein, together with all gland bearing tissue from the clavicle to the jaw.

It is possible to cure by surgery patients with buccal cancer who have small cervical metastasis. This dissection should be done before, rather than after radiation treatment, as in most instances of radiation to buccal cancer the tissues of the upper neck will be so seriously damaged by the radiation that fatal infection is not unlikely to occur after operative procedure.

It is seen that the chance of gland metastasis is comparatively small in low grade tumors and also is small in very small tumors.

In the great majority of cases of oral cancer, by the time the patients come for treatment, the growth is so large and the lymphatic involvement so extensive, that the results are discouraging. In cases with small or no enlargement of the lymph nodes the cures are about 12%. As Lund[4] summarizes, epidermoid carcinoma of the buccal mucosa in most cases is difficult to cure; very small and pathologically low grade tumors are very susceptible to cure by proper application of any recognized method. There is a tremendously important field in relation to this kind of cancer: the education of the public and the doctor in order to bring about better results.

Cancer of the Larynx: Sarcoma and Carcinoma. Sarcoma is not common. Brunner[5a] reported a case of melano-sarcoma originating on the posterior pharyngeal wall which was treated by radium and electro-coagulation and later by pharyngotomy; the patient had been under observation for about four years. A patient on whom I[6] did a lateral pharyngotomy for a melano-sarcoma of the larynx over four years ago, is alive and well at the present time.

Carcinoma, squamous in type, is the most frequent form of cancer of the larynx. Malignant tumors of the larynx are divided into two groups—intrinsic and extrinsic. The term extrinsic, however, appears ambiguous in that it does not definitely tell you where the site of the carcinomatous growth may be; in the vernacular, it may be anywhere outside of the larynx. I prefer to use the terms: epilaryngeal, hypopharyngeal and pharyngeal. The epilaryngeal includes malignancies involving the epiglottis, the aryepiglottic folds, arytenoids and pyriform sinus; the hypopharyngeal in the post-cricoid region; the pharyngeal involving the lateral or posterior wall of the pharynx.

Intrinsic Cancer: About 75% of laryngeal cancer is intrinsic in origin. Cancer of the inter-arytenoid area is rarely seen. Cancer involving the ventricles is more dangerous than that involving the cords, and causes fairly early glandular involvement. The vocal cord is the most favorable site, and cordal cancer spreads along the cord; it may become subglottic and spread to the opposite cord, or cross the anterior commissure. It might be said of true cordal cancer that it grows slowly in the early stages, and if limited to the vocal cord does not metastasize to the glands. It is usually of squamous cell, occasionally basal cell and adeno-carcinoma. The course is usually of several years'

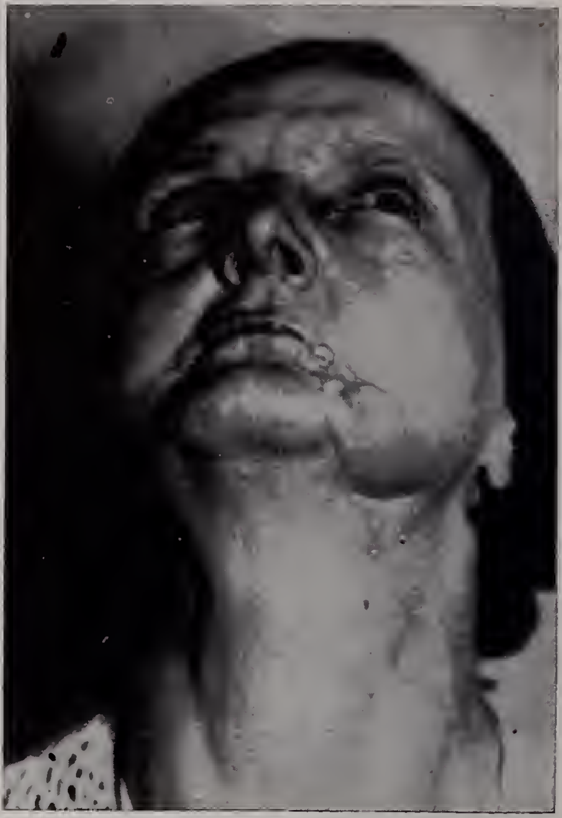

Fig. V. Picture of patient who had carcinoma of cheek and angle of mouth that was resected after the method of Norman Patterson, showing line of incision.

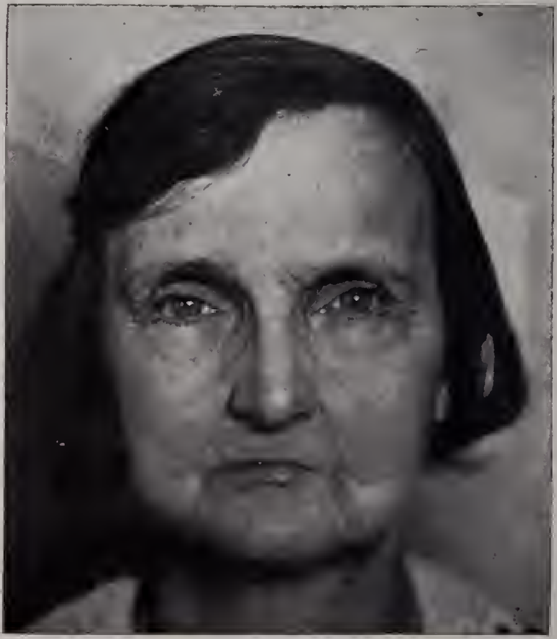

Fig. VI. Picture of the same patient showing no appreciable deformity following resection of cheek.

duration, depending on the location and grade of tumor.

A great deal has been said about the fixation of the vocal cords as a diagnostic point of carcinoma of the larynx. In my own series 6-A, of 108 cases that where operated upon, I found that the movements of both cords were absolutely unaffected in thirty patients. The right cord was sluggish in 23 as compared to the left which was sluggish in 14. The right cord was completely fixed in 19 and only 14 of the left; so that the larynx can well harbor malignancy without affecting the vocal cords.

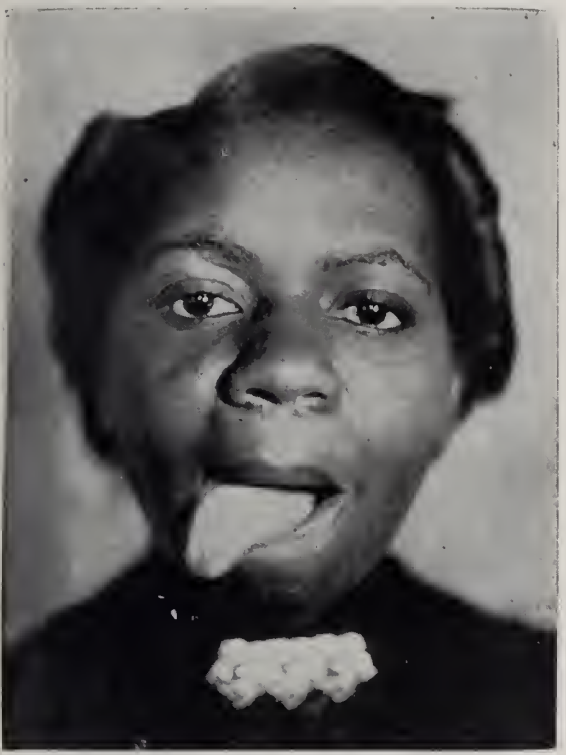

Fig. VII. Picture of patient who had carcinoma left side of tongue which was removed four years ago with diathermy. Note how the tongue has flattened out.

The true cordal type cancer is ideal for laryngofissure, which is indicated when a growth is limited to one cord that is quite mobile, and with both extremities of the cord free of the disease. The operation of laryngofissure, therefore, depends on the location and extent of the growth. Anything beyond that, in my opinion, calls for a laryngectomy.

The first laryngofissure for the removal of intrinsic cancer of the larynx was carried out by Gordon Buck in America in 1851. Improvements in technique by Sir. St. Clair Thomson[7], and Chevalier Jackson[8], have made it a safe procedure with 80 to 85% cures. In my own series, 6-A, I have patients living from two to eighteen years following laryngofissure.

The operations of choice therefore in the intrinsic cancer are laryngofissure or laryngectomy, depending upon the site and extent of the disease.

Subglottic Cancer: Subglottic cancer originates on the inner or under surface of the vocal cords, or the subglottic area, chiefly in the anterior half of this region. This type, although well within the larynx, has a large amount of lymphatic drainage with possible early metastasis along the party wall into the esophagus and down the trachea. Subglottic cancer may spread over a large area before being recognized. Anteriorally it commonly passes through the cricothyroid membrane and metastasizes to the lymph nodes over this area. It often extends behind the isthmus of the thyroid gland and may extend down into the trachea and posteriorally to the esophagus. Subglottic cancer is practically always of the squamous cell type.

There were thirteen patients in my series of 108 cases in whom the growth was subglottic at the time of operation. Seven of these had recurrence. With 50% recurrence in subglottic cancer in which a total laryngectomy was done, I feel quite definitely that laryngectomy should take precedence over laryngofissure in this type of growth.

Sir St. Clair Thomson[7] states, "subglottic cancer is much less frequent than either intrinsic or extrinsic forms. Early diagnosis is difficult, and the lesion well advanced before it reaches the cords. The intermittent change of voice may be the only early sign. When the anterior commissure is invaded a complete laryngectomy is indicated."

The extent of the subglottic growth cannot be correctly judged until the larynx has either been incised at time of operation or after its removal. Laryngectomy therefore, is indicated when an intrinsic lesion of the larynx is of such size, location and involvement of the structures that the operation of laryngo-fissure would be inadequate.

Extrinsic Cancer: or as I have termed it, the epilaryngeal type, which includes neoplasms arising from the epiglottis, the aryepiglottic folds, the arytenoid cartilages and the pyriform sinus; and the hypopharyngeal type which includes the post-cricoid cancer. This form of cancer is more malignant than the intrinsic type, and has tendencies to early metastasis to cervical glands. Some pathologists have stated this type is seldom arrested or cured by surgical procedures. I believe that in treatment of this type of cancer, if early diagnosis is made, good results can be obtained.

It is true that cancer cannot be cured in all cases; but certainly if this region is examined with painstaking thoroughness, much can be accomplished by early diagnosis and radical operation, for cosmetic consideration has no place in the treatment of malignant growths.

What irradiation may do for this type remains to be shown, but in order to arrive at definite statistics, the site of growth must be definitely stated, and not use the general term of cancer anywhere outside the larynx.

Mixed forms are a combination of intrinsic and epilaryngeal cases, and when they present themselves in an advanced state it is impossible to determine the site of origin. In this same form I include the post-cricoid or hypo-pharyngeal type in which nothing short of a complete pharyngo-laryngectomy will be of any value.

From the following statistics it is apparent that epilaryngeal cancer is not as hopeless as some would lead us to believe:

Alonso[18] in his resumé of 270 cases of cancer of the larynx upon which he has operated, gives an operative mortality of 3.5% and the survival rate after three years over 50%.

In my study of 108 cases of cancer of the larynx in which a laryngectomy or pharyngo-laryngectomy was done, five patients died within three weeks of operation from any cause whatsoever; the mortality approximately 4% with 83 successful cases and 24 recurrences.

PHARYNGEAL: This brings us to the neoplasms arising on the lateral and posterior wall of the pharynx. The treatment and prognosis depends to a great extent on whether or not the starting point of the lesion is known. When the growth is on the laryngeal surface of the epiglottis, good results are obtained by lateral pharyngotomy. Treatment of the lateral and posterior pharyngeal type gives results if patient is seen early. Growths involving the pyriform sinus and progressing around to the post-cricoid region have the poorest prognosis, although if they are seen at a very early stage surgical intervention may be valuable.

The operation of lateral trans-thyroid pharyngotomy, (Trotter's[9]) includes a dissection of glands on the side of the neck and the removal of a segment of pharynx, or, if necessary, the entire larynx, and this is followed by elaborate reconstruction of the pharynx.

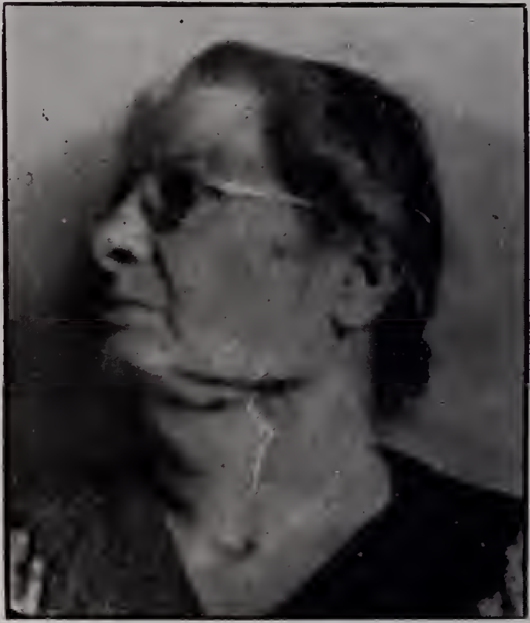

Fig. VIII. Picture of patient who had lateral pharyngeal growth removed by lateral pharyngotomy four years ago.

"The classification of these groups best suited for pharyngotomy or pharyngo-laryngectomy, and those inoperable must be decided upon by clinical experience. Here the occasional operator may meet with disaster and naturally become discouraged and give this procedure up as impractical. But for those interested, and with patience to keep on in face of failure, this area is a most interesting field for surgery. And to those who do not grudge the learning of an exacting technique and the risk of many disappointments, the operative excision of small pharyngeal epitheliomas will probably long remain a legitimate field for the surgical adept, and look with confidence for cures with little risk of life and no persistent disability."

"The future development of this subject lies then on the one hand in the exploitation of irradiation, and on the other in that of an early diagnosis."

Pilcher[17] states, "No matter what method of treatment is favored it will obviously have more chance of success if diagnosis is made early." This is true whether it may be surgery or some form of irradiation or a combination of the two.

A few remarks concerning irradiation in conjunction with surgery:

IRRADIATION IN CERVICAL GLANDS IN CARCINOMA OF THE ORAL MUCOUS MEMBRANES

Duffy[11] states, "Radical surgery of the cervical region should be delayed until the primary lesion is controlled; moderate external irradiation to the neck may be given as a growth restraint. When the disease involves both sides of the oral cavity, radical surgery is contra-indicated."

Jacox[12] remarks, "In the absence of visible palpable nodes, irradiation is given each side of the neck for a period of from ten to fourteen days. When movable glands are present the same treatment is given followed in two to six weeks by radical block dissection of the neck. If the nodes are fixed, irradiation is given followed in two to four weeks by wide surgical exposure and implantation of radium needles from 2 to 8, 10 mgm. needles for eighteen to thirty hours. Bilateral metastasis and distant metastasis contraindicates operation." He concludes by saying, "Surgery offers a better chance in operable cases. Whereas, in advanced cases well defined irradiation treatment will give a longer life expectancy and greater comfort than extreme radical surgery." C. Hamblen-Thomas[13] states that operation should be done where possible and that radium and x-ray irradiation have their particular uses, and when so used the patient should be hospitalized. With firm fixation of growth, with involvement of muscles and glands, irradiation is not successful in the vast majority of cases.

H. E. Martin[14] is of the opinion that the exclusive use of Roentgen irradiation in all cases is probably not the best solution of the problem of pharyngeal cancer.

Then again we have C. L. Martin[15] who states that irradiation therapy is the method of choice in all malignancies of the pharynx and larynx, and that it should replace surgery in all borderline and inoperable cases.

And lastly, Diggle[16], by using the Finzi-Harmer irradiation, states that this method has lowered the operative risk but there have been more recurrences than following the surgical operation of laryngo-fissure in laryngeal cancer.

PSYCHOLOGY OF LARYNGECTOMIZED PATIENTS: Schall[10] states, "That from the earliest writings to the most recent literature concerning cancer of the larynx, the operation of total laryngectomy is ofttimes described as a mutilating procedure leaving its victim in a pitiable condition. Neither the public nor the vast majority of physicians is familiar with the patient who has lost his larynx and consequently normal speech."

I agree most heartily with Schall[10] who says, "There is need of educating the medical profession as well as the laity to an understanding that the laryngectomized patient is not a pitiable object—a woe-begone creature, who has given up all that life holds dear. The blind say they would rather be blind than deaf; the deaf, that they would rather be deaf than blind; the patient without a voice considers himself fortunate that he is neither blind nor deaf."

And yet the laryngectomized patient need not be without a voice, for I am firmly convinced that if he makes up his mind to talk it can most certainly be accomplished, as we have seen it happen in practically all of the patients upon whom I have operated; in some instances the voice is sufficiently distinct to be easily understood over the telephone.

In closing, I should like to read the following verse sent to me only recently by one of these patients upon whom I operated over six years ago:

"It's easy enough to smile
  When you can talk, laugh and shout,
But those worthwhile, are those who smile
  After their larynx has been cut out!"

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The Relationship Between Urology and the Other Branches of Medicine*

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UROLOGY is so closely related to and allied with the other systems of the body that it behooves every physician in general practice to include at least some simple urologic diagnostic steps in the work-up of the ordinary case if he is satisfactorily to take care of the welfare of his patients. Diseases such as brain tumor may have urologic manifestations that require interpretation, and urologic pathology may have symptoms that are referable to other organs and that simulate other diseases.

In the May issue of the Mississippi Medical Journal I ran across these lines, "With pain in the heart look to the belly, and with pain in the belly look to the heart." May I also add—don't forget the urological tract, for the pain produced by urinary pathology is frequently referred.

The similarity between the symptoms of acute appendicitis and ureteral stones at times is familiar to all of us, but far be it from me to suggest that a patient be cystoscoped with an acute abdomen just because of a few pus cells in the urine. If the patient gives history of persistent pyuria, however, or if there is a number of red blood cells in the urine, a cystoscopic examination is justified and will be of invaluable aid. A few months ago we had a young patient, ten years of age, with an acute abdomen; there was also a number of red blood cells in the urine. Intravenous urograms were done in this case and none of the pyelographic media was eliminated from the right kidney. The blood count jumped from twelve to eighteen thousand in six hours. Operation revealed an acute appendicitis. In this case a cystoscopic examination was not deemed advisable before the operation because of the acute abdomen. However, it was done later and a retrograde pyelogram of the right kidney showed a normal kidney and the appearance time of the dye was three minutes, with a very good output of the phenolsulphonephthalein.

In such cases of an acute abdomen, one cannot rely upon intravenous urograms. They may be of assistance in determining the functional value of a kidney, and again they may not. Negative intravenous urograms are, therefore, unreliable in the presence of an acute abdomen.

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*Read before the Section on Medicine of the seventy-second annual session of the Mississippi State Medical Association, Gulfport, May 11, 1939.

A stone in the pelvis of the kidney may sometimes simulate gastric ulcer. About a year ago we observed a patient whose symptoms were entirely gastric. The pain was in the epigastrium, and she had nausea and vomiting and indigestion. In fact, all her symptoms were referable to the gastro-intestinal tract. Her gastro-intestinal examination, however, was negative. Roentgenogram revealed a stone in the pelvis of the right kidney. Following removal of this stone she was entirely relieved of her gastric symptoms.

The mechanism of visceral and referred pain is not well understood. But we do know that the nerve supply to the genito-urinary tract is very closely associated with the innervation of the gastro-intestinal organs. It is probably the close association of these fibers that causes the reference of pain from urologic diseases to the abdomen at times.

Patients may have two pathological conditions adjacent to each other which have no direct bearing on one another. One of our patients had an abscessed kidney with stones in the gall bladder as well. It was difficult at first, off hand, to determine which was the immediate offender. She was acutely ill, but we were able by means of cystoscopic and pyelographic studies to determine that the acute process was in the kidney.

Horseshoe kidney, with or without stones, has on more than one occasion in our experience been the cause of abdominal operation, and the true pathology was not suspected until after the innocent appendix had been removed. One of our patients had a cleft palate, as well as a fused kidney. Inconsequential as it may seem, one should suspect anomalies of the genito-urinary tract when anomalies are found elsewhere, such as club-foot and cleft palate, for this relationship is not uncommon. There has been a number of cases of anomalies elsewhere in the body along with anomalies in the genito-urinary tract, and one should be alert to this fact.

The similarity between the symptoms of chronic appendicitis and ptosed kidney is very, very close at times. A doctor's secretary consulted us after having had her appendix removed without relief of pain in her abdomen. Her generative organs were negative. On urological examination she was found to have a ptosed kidney. On distending the right kidney pelvis her pain was reproduced. At operation a very beautiful example of an aberrant vessel was revealed. Her pain was entirely relieved following its removal and denervation and fixation of the kidney.

Herpes zoster has on two occasions in our experience simulated renal colic. In one we did a complete urological examination with negative findings and were tempted to repeat the examination when the patient broke out with a typical crop of shingles. Another case was still more baffling because of reproduction of the pain produced by distending the right renal pelvis, and evidence of infection in the bladder specimen. You can imagine our chagrin when the condition manifested itself.

One of the most interesting cases that we have had was that of acute seminal vesiculitis simulating acute appendicitis. A few years ago we were asked to see a young man who was about to be operated on for an acute appendicitis. It was staff meeting night at our city hospital and the patient was prepared for operation at eight o'clock. His urinalysis was negative. The visiting man, however, detected in his history that he had been treated in the clinic two weeks before for acute gonorrhea. For that reason he asked us to see him. He was found to have a distended right seminal vesicle and express secretion showed many intracellular diplococci. We can't help feeling that his urine was given the sink test, because it, too, should have shown changes that were not on the laboratory sheet. Within fifteen minutes after massage his pain was entirely relieved and his abdomen relaxed, and he left the hospital the next morning without an operation. This was a typical example of acute seminal vesiculitis simulating acute appendicitis. I recall another patient who was operated on and from whom a normal appendix was removed. The following morning he developed an acute epididymitis and the previous symptoms were unquestionably due to a vasitis.

The situation of the seminal vesicles and their relation to certain parts of the urinary tract, especially the lower ends of the ureters, is of the greatest importance in interpreting certain symptoms, findings, and pyelographic studies of the urinary tract. Not so long ago we treated a hospital superintendent who had a definite attack of renal colic caused by seminal vesiculitis. There is nothing at first to differentiate the cause of this renal colic from the renal colic caused by a stone, stricture of the ureter, etc., until cystoscopic examinations are made and pyelograms are taken. A gentle massage of the seminal vesicles will often produce a great amount of secretion, which shows many pus cells, often in clumps.

Confusion frequently exists between the urinary tract and the generative organs in the female. An inflamed uterus or other pelvic generative pathology may produce kidney symptoms, and the other way around. In rare instances an elusive ulcer of the bladder has been the cause of pelvic female operations. The same is true of caruncle of the urethra.

Frequency of urination in many instances has been produced by pathology in the surrounding adnexa, particularly in the female. But a very unusual cause of this frequency in one of our cases was found to be carcinoma of the transverse colon. A female, aged fifty, had had an almost unbearable frequency of urination for three months without any demonstrable pathology found in the genito-urinary tract. Following the removal of a small carcinoma of the colon at the hepatic flexure she has been entirely free of her symptoms. A certain amount of nervous element produced in some way by the malignancy must have been the cause of her frequency.

Allergic reactions take place in the urogenital tract, just as they do on the skin and elsewhere in the body. Moore, of the University of Oregon, reported a child suffering from enuresis and eczema, both of which disappeared on withdrawal of eggs from the diet. Similar cases have been reported of nephralgia, ureteral and vesical spasm, and hematuria with an allergic background. Some of us believe that many of the cases of pyelitis in children have an allergic basis. We have seen several asthmatic children who had recurring attacks of pyelitis during their childhood, and both conditions were definitely related.

In no branch of medicine is the psychogenic factor more important than it is in urology and urogenital tract infection. We have found this demonstrated time and time again in prostatitis. The fear of loss of sex, sexual abnormalities, and maladjustments take terrific toll from our physical being. Frigidity in its numerous forms—what demands more skillful and sympathetic treatment? The urologist must develop some simple psychotherapy in the treatment of these patients, or else refer them to someone trained in that particular field.

SUMMARY

We have attempted to show the relationship that exists between urology and the various other branches of medicine, such as neurology, dermatology, gastro-enterology, gynecology and allergy. This relationship is so close in many cases that the physician must be urologically minded and urologically grounded if he is properly to interpret these symptoms.

The Tracheotomy—Its Dangers and Complications*

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THE TRACHEOTOMY, which may be defined as an operation for making an opening into the trachea, is one of the oldest of surgical procedures. However, rather than elaborate on its history, it is my purpose to say more about its complications and dangers, and particularly, one danger which is the main purpose of this paper.

The tracheotomy is more often done to prevent asphyxia by enabling the patient to breathe through his neck when obstruction prevents him from breathing through his mouth. Pathology producing laryngeal dyspnea arises in the course of many diseases—edema, crusts, hypertrophy, hyperplasia, wounds, instrumentation, diphtheria, tuberculosis, syphilis, caustic alkalies or acids, inspirated foreign bodies, retropharyngeal abscess, etc. Since diphtheria toxoid has been introduced, laryngeal obstruction from this source has practically been eliminated in the larger cities where it is compulsory in the schools. If obstructive laryngeal dyspnea indicates tracheotomy, it should be done early. The patient has everything to lose and nothing to gain by waiting until he is in the extremes. Hasty tracheotomy is usually done too high and laryngeal stenosis results. (Many of these cases found their way to the Eye, Ear, Nose and Throat Hospital in New Orleans and gave us plenty of trouble until our plastic surgeon used skin graft).

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*Read before the Section on Eye, Ear, Nose and Throat at the seventy-second annual session of the Mississippi State Medical Association, May 9, 1939, Gulfport, Mississippi.

The anatomical considerations—Adams apple is always easy to find. It is attached to the upper end of the trachea; the trachea extends in the center line of the neck down to the suprasternal notch. When you cut through the overlying tissues you can run your finger from the Adams apple down along the trachea all the way to the suprasternal notch. There are no seriously large vessels normally, or any other important structure in the midline of the front of the neck between the skin and the trachea. All structures you must not cut are at the side; keep them there. The center line is safe. At the level of the suprasternal notch, it ceases to be a safety line. The cricoid cartilage is the only complete ring in the lower air passages and should not be unnecessarily cut.

The selection of tracheotomic cannula is important. There is an individual variation in the size of the trachea so that any tabulation of sizes in relation to age is subject to modification to suit the patient. A close fitting cannula, that is, one that allows no air space between its outer surface and wall of trachea, should not be worn continuously, a by-passage for air is necessary. Infants obviously use the small tube but it must be remembered that the baby is at a dangerous disadvantage in being compelled to use this small tube, because it takes very little to clog it, and further, the baby has weak muscles and cannot provide a strong expulsive blast to clear the cannula. Too long tubes have been known to erode through the trachea and innominate artery.

No dyspneic patient should be given a general anaesthesia because any patient dyspneic enough to need a tracheotomy is dependent largely upon the action of the accessory muscles, and if this action stops by beginning unconsciousness respiration ceases. The skin infiltrated along the line of incision with 1% novocaine solution suffices to render the operation painless. If patient is very dyspneic infiltration should be done while patient is sitting on operating table, as the recumbent position increases dyspnea. Injection of cocaine solution into trachea is to be discouraged as the "cough reflex" is killed, thereby permitting inspiration of infective processes and blood. Cocaine in any form in any method, and in any dose is dangerous on very young children.

TECHNIC

The patient should be in a recumbent position with extended head; shoulders, not the neck, should be slightly raised, with the head lower than the feet to lessen the danger of inspiration of blood. A midline incision dividing the skin and facia is made from the thyroid notch to just above the suprasternal notch, the cricoid located, and the deeper dissection continued below this point. The muscles are separated and held apart. The thyroid isthmus is either retracted upward or ligated and divided, if large, for it is likely to slip over the tracheal incision afterwards and render difficult quick finding of the incision during after care. This covering of the tracheal incision by the slipping back of the drawn aside thyroidal isthmus is one of the most frequent avoidable causes of mortality, because it deflects a cannula off into the tissues when it is replaced after cleansing in the early postoperative period. All bleeding points should be stopped before trachea is opened. An incision in the trachea should be as low as possible and should never be made through the first ring; it should be through the third, fourth and fifth rings in the midline and in long axis of the trachea. Care should be taken that the point of the knife does not perforate the posterior wall of trachea. A Trousseau dilator is now inserted and the blades gently separated and the cannula inserted. A quadruple folded square of gauze slit from the lower to its mid point is slipped from above downward under the tape holder of the cannula. No attempt should be made to suture the skin for this tends to form a pocket in which lodges the bronchial secretions, resulting in infection of the wound.

The after care of the wound is of utmost importance. The inner tube of the cannula must be removed and cleaned as soon as it contains secretion, and the gauze dressing covering the wound must be changed as soon as soiled. The outer tube changed at least every creases, remove cannula, dilate wound and inspect trachea before attributing it to pulmonary complications. There may be obstruction of the cannula, the trachea or the bronchi by easily removable secretions.

Opiates should not be given. They not only obtund the cough reflex which is the "watch dog" of the lung but they also lessen the normal secretion which increases the fluidity of the pus. Add this to the desiccating effect of air inhaled through cannula and we get crusts and plugs equivalent to foreign bodies which require removal by forceps.

In the complications and dangers of the tracheotomy pneumonia and edema of the lungs are rare. Subcutaneous emphysema, if so, is due to stitching of the wound and there may be mediastinal emphysema if not removed. Sepsis need not be feared if dressings are changed often. The anomaly of the innominate artery is to be seriously considered.

SUMMARY

The tracheotomy is done to prevent asphyxia. Early tracheotomy is preferable. Local anesthesia is indicated. The cricoid ring should be left intact. If there is stenosis, skin graft gives best results. Opiates should not be given and the after care of the wound is most important. The anomaly of the innominate artery is a real danger.

Acute Lacerations*

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THE INCIDENCE of injuries of the face has increased tremendously within recent years, and due to the high speed of the modes of transportation today, we are justified in anticipating a still further increase in the frequency of these injuries.

The results obtained in the removal of disfiguring scars have lead surgeons to search for more efficient methods of primary repair in order to minimize scar formation and deformity. The average patient, at the time of accident, is inclined to consider the injury lightly; and too frequently, influences the doctor to treat it likewise. As a result, the surgeon may apply some strong antiseptic to combat infection, take a few hurried sutures in the skin, apply a patch bandage, and instruct the patient to return in a few days. As the wound heals, and particularly when a settlement for damages from the accident is attempted, the patient becomes more scar conscious and fears that he is going to have a permanent disfigurement. His legal advisor mentions large sums of money as a just settlement and sends him to another surgeon requesting a statement as to the extent of injury and the amount of disfigurement. This surgeon is also asked to give an estimate of the cost of removing all blemishes and restoring the appearance to normal, stating that the settlement is to be based upon the amount of pain suffered by the patient, time lost and the facial disfigurement. At this time, neither the attorney nor the patient desires corrective operations. After the settlement, the surgeon may never see the patient again, or else he returns with "tears in his eyes," saying that he only received $500.00 instead of the $10,000.00 he expected, and the lawyer's fee was half of that received. He then wants the surgeon to consent to do the work for practically nothing.

Far too often, this is the sequence of events in these injuries of today. The appalling increase of this malignant attitude in the average layman's mind can be greatly controlled by the surgeon who first sees the patient. None of these injuries should be considered lightly. Regardless of how trivial the wound, every possible effort should be exerted to obtain the very best results. It is not always possible for any surgeon to repair completely every injury at the first operation. In any event, the patient should be seen often and kept under control until the treatment is satisfactorily completed or the patient referred to a reparative surgeon.

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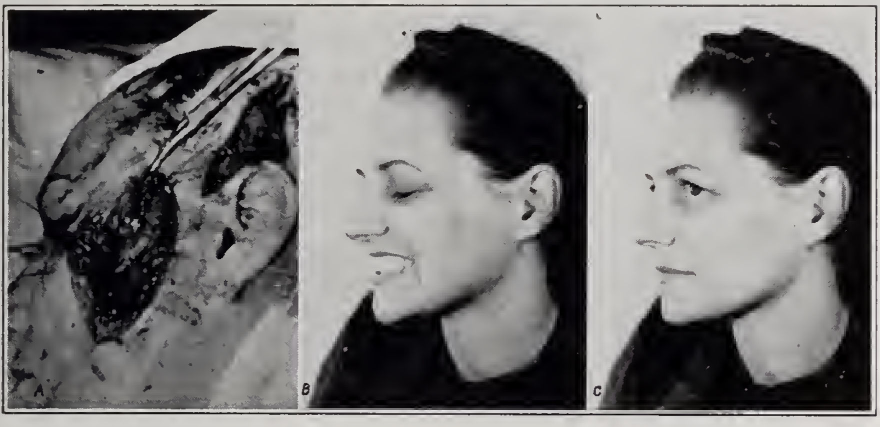
*Read before the Section on Surgery at the seventy-second annual session of the Mississippi State Medical Association May 10. 1939, Gulfport, Miss.

I am not going to attempt to cover this subject completely, but only try to give, in a brief way, what I consider some of the more important points in the management of these cases, such as: making the patient as comfortable as possible; a thorough physical examination; treatment of shock; the administration of tetanus antitoxin when indicated; a thorough cleansing of the wounds with the least amount of trauma; an accurate approximation of the tissues and close attention the postoperative care of the wound.

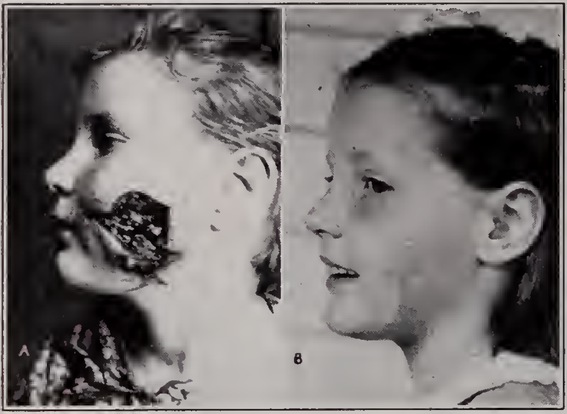
Many textbooks lead one to believe that the patient should be completely free of shock before treatment of the injury is undertaken. Treatment of shock is of the utmost importance, but it and the facial injury may be treated at the same time without hindrance to either and advantage to both. Traumatic shock is much more prolonged where the wound is allowed to remain open than where an immediate careful closure is done. The treatment of the wound itself is an important factor in the treatment of shock, as it lessens the pain, prevents further tissue damage, and allows better circulation to the parts.



A. Two deep lacerations of face and scalp following an automobile accident. Upper two branches of facial nerves severed. Patient was unable to raise upper lip with a paralysis of the upper half of face and eyelids on affected side. Several hours were spent in repairing the wound, most of which was spent searching for the severed ends of the nerves. Notice two black strands which are tied to the cut ends. Ends were sutured together with six (O) Deknatel silk. Remainder of wound closed in routine fashion. Triple (O) plain catgut was used for suturing of muscles and subcutaneous tissue. Skin was closed with interrupted black silk, six (O) and four (O). Elastic pressure bandage applied to face and head.
For several months the patient had some drooping of the lower eyelid and was unable to close upper eyelid. Slept with eye open. Loss of facial expression of upper one-half of face.

B. & C. Postoperative pictures were taken nine months later, showing patient has good function of facial muscles of expression and able to close and open eyelids.

First paint the skin around the wound with tincture merthiolate, metaphen or mecresin, etc., being careful not to get any of the antiseptic in the fresh wound, as it not only cauterizes the delicate tissues, but is painful to the patient. If there are any severe bleeders, clamp and tie them immediately. Completely anesthetize the area involved, so that it will be possible to do whatever is necessary, without pain or discomfort to the patient. Too, it is almost impossible to clean any wound without anesthetizing it first. One per cent novacaine with a few drops of adrenalin is used. The adrenalin or superanin is used with the novacaine to lessen the bleeding and to prolong the effects of the novacaine. As a general rule, it is safer for the point of injection to be through the skin away from the wound. After the area is anesthetized, the open wound is packed gently with sterile gauze dampened in normal saline. A thin coat of vaseline is

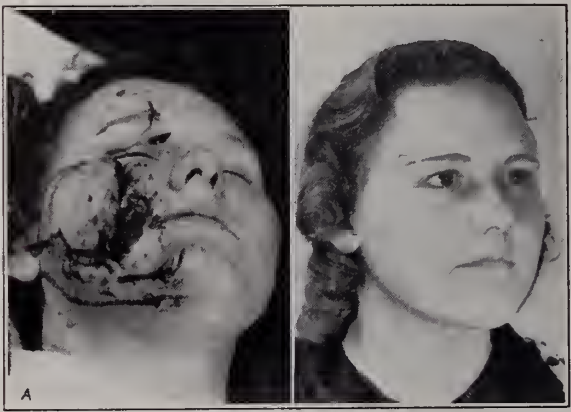


A. Extensive loss of skin and muscle tissue of cheek, in a girl four years of age. Received when her pet Boston bull-dog accidentally snapped her on the cheek. Patient was exceptionally cooperative for her age, permitting repair under local anesthetic. Skin was cleansed with green soap and water. Antiseptic applied. Wound was irrigated copiously with warm saline. No antiseptic applied to open wound. Incisions were made down onto the neck to allow a sliding flap to be swung up to cover the large area. Also small relaxing incisions were made onto the cheek. Skin edges undermined, allowing wound to be completely closed. Elastic pressure bandage was applied to help mobilize the tissues of the face and prevent postoperative swelling of the tissues. Dog was under observation and locked up. Due to the extensiveness of the injury, the patient was treated prophylactically for hydrophobia. Wound healed by primary intention.

B. Picture shows patient six months after primary repair

then applied to the top layer of gauze to prevent the dirty soap and water used in the cleansing of the skin from contaminating the wound. The skin is thoroughly scrubbed with tincture of green soap and water. If there is much oil or grease on the skin, benzine or ether is used. Where tar or pitch is ground into the skin, as is frequently the case when a patient has fallen on an asphalt pavement or in cinders, carbon tetrachloride is the best solvent. If necessary, use a sterile scrub brush. After the skin is thoroughly cleansed, it is again painted with some "paint" antiseptic.

One is now ready to clean the open wound. A copious washing with warm normal saline is usually all that is necessary. Other cleansing agents are only used when absolutely needed. The debridement in wounds about the face should be a conservative one. Definitely divitalized tissues should be dissected away. When there are severed nerves, spend several hours, if necessary, searching for the cut ends. Although they might be hard to find at this time, it will be more difficult to find them at a later date, and the chances of nerve regeneration will be markedly decreased. Before the nerve ends are brought together, the traumatized ends are cut away with a knife or very sharp scissors. It is very important that the ends be brought together very accurately and that there is no blood clot or other matter between the opposing ends, as this will hinder and delay the primary nerve union. Six (0) Deknatel is recommended for the suturing of small nerves.



A. Extensive laceration of face, with asphalt ground into the skin, resulting from an automobile accident. Patient had lost a considerable amount of blood and was in a moderate degree of shock. Taken to operating room immediately, given 1000 cc. of 10% glucose in normal saline, intravenously. At the same time treatment of lacerations was begun under local anesthetic as here outlined.

B. Three months later after primary repair with a good function of muscles of expression and mastication.

In suturing muscles, do not place the suture too near the end, but go well back into the body of the muscle and be very careful not to tie them too tightly, as muscle tissue is very easily strangulated. Double (0) plain catgut or triple (0) chromic catgut is usually sufficient. Build up the foundation for the overlying skin so that when the skin is closed, there will be no depressions or irregularities in the surface of the skin. If much fatty or subcutaneous tissue is needed for this, it is well to over-correct, as some of the fat will be absorbed. Complete hemostasis is most important, as it not only aids in proper healing, but prevents infection. In closing the skin, be very careful not to bruise the skin edges.

In most wounds, undermining the skin edges will give a much smoother closure. If the edges are ragged and irregular, a better result will be obtained by excising the edges with a very sharp knife. When making additional incisions, try to make them as straight and parallel as possible, bearing in mind the "Line of Langer." A fine braided silk, stainless steel wire or Zytor suture, (a rayon product) are some of the best suture materials for the skin. The silk should be woven or platted rather than twisted, as this ravels and stretches. The silk should also be one which has been treated with wax or paraffin to prevent the absorption of moisture. Some form of interrupted or subcuticular suture should be used. However, the subcuticular suture is not recommended unless the surgeon is particularly skilled in its use. Before each suture is tied, the skin edges should be wiped clean, and much care given to the amount of tension on each individual suture.

Where wounds have been closed properly, from the bottom up, obliterating all dead spaces, and hemostasis controlled, it is rarely ever necessary to insert a drain. If one is needed, it should be inserted at the most dependant portion of the wound and removed as soon as possible. Many clean wounds have become infected because of an unnecessary drain. If the proper type of pressure bandage is applied, it is surprising how seldom a drain is required. In applying this bandage, extreme care should be taken to obtain an even amount of pressure to all parts. This will prevent the oozing of blood, swelling of tissues and undue tension on the sutures. An elastic pressure bandage may be obtained in many ways, through the use of sea sponges, rubber sponges, rubber bags, or some form of elastic bandage or elastic adhesive, such as: ace bandage or elastoplast. Wounds about the mouth and nares often do better without a dressing. Frequent cleansing and a thin coating of vaseline is usually all that is necessary. The dressings should be inspected daily to see that they are clean and that the proper pressure is being maintained. Unless there is direct indication, do not change the dressing the first few days. After this, the dressing should be removed and the wound inspected daily, removing any sutures that are too tight, or around which there is any undue tissue reaction. As the sutures are removed, the incision should be supported with strips of adhesive. A much finer scar will result if the incision is supported with some form of adhesive strapping for several weeks. Much harm can be done by starting massage too early. However, when massage is indicated, the patient should be carefully instructed how it should be done. In extensive lacerations, with a great loss of tissue, where further reparative work is necessary, it is best to wait until the tissue reaction from the first operation has subsided.

Two or three weeks postoperative, one may notice that the scar is becoming elevated, is more red than normal, and the tissue action is not subsiding as it should. In these cases, cell division is still taking place. There may even be evidence of definite keloid growth. In either case, an x-ray treatment given to attenuate the excess cellular activity will usually abort what, if allowed to go untreated, will later be a large hypertrophic or keloid scar. This treatment should be given on a skilled roentgenologist. In very persistent keloid growths, a second treatment may be necessary three or four weeks later. If this routine were carried out in all cases in which any incision is made the incidence of keloids would be reduced to a minimum.

902 Madison

Diarrhea In Children

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During the last few years there has been a marked decrease in the number of cases of diarrhea as well as a decrease in mortality from it. This has probably been due to improvement in general hygiene, improved milk supply and closer supervision of the infant's diet by the physician. It is very rare to see an infant with diarrhea who has seen a doctor every three or four weeks during the first year of life, and it is usually very mild then. It is still common to see it in infants who have never been to a doctor before and among the clinic of patients who should be supervised during this most crucial period, but due to lack of finance or ignorance or both, they are not seen until it is often too late for a physician to be of much service to them.

Etiology

The major number of diarrhea cases is due to digestive disturbances for which no specific organism can be blamed. However, typhoid, paratyphoid and dysentery should always be ruled out.

Some of the contributing causes to diarrhea are hot weather, poor milk and general hygiene, infections, especially of the upper respiratory tract and occasionally of the kidneys, artificial feeding with too much fat or carbohydrate, overfeeding or underfeeding and at times undigested food. In all cases there should be a careful history and a thorough physical examination to determine the cause.

Pathology

Except in the dysentery group where there is necrosis, ulceration and hemorrhage in the colon and lower ileum, there are no changes except degenerative ones mostly of the kidneys and liver. However, there is a marked chemical change. In severe cases, there is dehydration, the carbon dioxide combining power and hydrogen ion concentration is lowered and as Dodd and Minot have shown there is an increase in the substance called guanidine. This is antagonistic to the action of calcium ions. Under these circumstances tetany may develop with a normal blood calcium. There is a marked loss of minerals (especially sodium, potassium and chlorine) in the stools.

Symptoms and Signs

There is usually vomiting sometimes during the onset. The stools become loose and watery. Depending on the severity the number will vary from seven to eight daily to one every fifteen or twenty minutes. The temperature may rise to 105° in a few hours or in some infants, especially small and weak ones with starvation, it may be subnormal. The child is usually restless and irritable with a feeble whine or cry. Some develop a definite tetany and others have twitching of head and extremities as if there was a toxic encephalitis. A few have generalized convulsions at the onset.

As the disease progresses, if treatment is not started, the skin becomes dry and inelastic with an ashen color. When acidosis develops, the lips have a peculiar pink tint and the respirations become slow and deep. When the disease has progressed this far the child is often comatose and the sclerae have lost their normal luster.

Careful physical examination may reveal nothing more than the above picture, but there may be an acute otitis media, mastoiditis, acute pharyngitis or tonsillitis. Bronchopneumonia frequently develops after a prolonged diarrhea.

Laboratory

Pus may be found in the urine, but it is often difficult to tell whether it is a cause or result. Traces of albumen and 1- or 2-plus sugar is frequently found.

The blood shows evidence of concentration and may show low carbon dioxide combining power and increase in guanidine.

Prevention

As the disease is becoming more limited to the poor and ignorant the prevention will be aided by a more abundant living, better education of the mothers and closer supervision of infant diets and general care.

Of the more specific measures:

Artificially fed babies—

1. Clean top of milk bottle carefully before opening.

2. Boil milk and water 3 to 5 minutes whether pasteurized or not.

3. Boil all water until child is two years old at least unless there is a pure water supply.

4. Boil nipples and caps five minutes.

5. Boil all bottles, funnels, strainers, spoons and measuring devices 10 to 15 minutes.

6. Be sure the milk is kept cool.

7. Introduce a sensible diet with new foods gradually — usually beginning with ½ teaspoonful and watching for any untoward effects.

8. Proper screening.

9. Prevention and early treatment of upper respiratory infections.

10. During hot weather care should be taken that the baby does not become overheated. During the very hot days babies do better if given more water and more dilute formulas and with less fat.

Breast-fed babies: Of course every mother who is physically able and has a good milk supply should nurse her baby until 6 to 10 months, but not until he is 2 or 3 years old. Most babies who are fed properly will be eating cereal, fruit, pureed vegetables and eggs by 6 to 8 months. At this time it does not seem to affect their growth to wean them. Some can be changed directly from the breast to a cup by this age.

TREATMENT

This, of course, depends a great deal on the severity and how soon the child is seen after onset.

In mild cases often the withdrawal of solid food and giving only boiled skimmed milk, tea or water for a few hours is all that is necessary. However, the return to the regular diet should be slow for fear of a relapse. If due to undigested food, one or two glycerine and water enemas will often stop the vomiting and diarrhea.

In moderate cases without much dehydration, boiled water, tea, or ½ normal saline may be given every hour for 10 to 12 hours and then add skimmed milk, buttermilk, protein or lactic acid milk every 3 to 4 hours. This should be given in small amounts (one to three ounces) at first. After a few hours, scraped apple (mellow ripe) or apple powder may be added. Banana may be added now or later. Some observers (Craig) feel that banana neither increases nor decreases diarrhea, while others (Joslin) and (myself) feel there is definite decrease. I usually alternate ripe banana and scraped apple every two hours. If improvement continues, cooked cereals, jello and pureed vegetables are added with caution.

In severe cases hospitalization is necessary as well as constant nursing care and frequent visits by the doctor.

During the first twelve to twenty-four hours and occasionally forty-eight hours nothing should be given by mouth except boiled water, ½ normal saline (teaspoon of salt to the quart) or weak tea. One or two ounces every hour while awake is usually as much as can be tolerated without vomiting.

Due to the extreme dehydration, 150 to 300 cc. of saline should be given subcutaneously (10 to 15 cc. per pound of body weight) as soon as possible. The kidney function is improved by the administration of 10 to 25 per cent glucose.

The total daily fluids should be kept at 75 to 90 cc. per pound of body weight. There is debate as to the value of adding Hartman's solution. (Ringer's solution plus sodium lactate) to the saline but clinically the patients certainly do better. In severe cases with acidosis 4 per cent sodium bicarbonate intravenously is very valuable but should not be used except when the carbon dioxide combining power can be obtained.

In very anemic and undernourished infants, frequent (every two or three days) small blood transfusions are of value, but should not be given until dehydration has been combatted. Citrate transfusions are easier given and when calcium gluconate is given simultaneously there is little danger of reaction. Dodd and Minot have shown that sodium citrate affects the ionizable calcium in the blood and if additional calcium is added the likelihood of reaction is almost nil.

The administration of calcium gluconate intravenously two or three times daily will often prevent the extreme intoxication in hyperguanidinemia and may prevent tetany although blood calcium is normal.

As the vomiting diminishes and the patient improves, boiled skimmed milk, buttermilk, lactic acid or protein milk is added to the diet but in small quantities. Apple or banana may be administered before, after or at the same time. I usually start skim milk in 12 to 24 hours. Then in another 12 hours 1 to 5 tablespoons of scraped apple every four hours (on very young babies 10 per cent apple powder in milk or water). The next day alternate banana (one to two inches) with apple.

When vomiting has stopped and the stools become more formed, cooked cereal, jello and pureed vegetables may be added.

When there is extreme tenesmus starch enemae often give relief. In older infants and young children suppositories will add much to their comfort. We use one prepared by Wyeth.

As for drugs, sedatives probably do more good than any other. Phenobarbital $\frac{1}{8}$ to $\frac{1}{4}$ grain is useful for restlessness. Tincture of opium or morphia in small doses is effective for restlessness and tenesmus. I often prescribe kopectate with tincture of opium. If very weak infants 4 to 10 mms. of caffine sodiobenzoate subcutaneously will be valuable as a stimulant.

Bismuth preparation very occasionally helps. Milk of bismuth is the preparation of choice but so far I have never seen any beneficial results from castor oil and have seen several cases of diarrhea made worse. If there is something you think should come out, use an enema.

Breast-fed babies: Less than 5 per cent of diarrhea occurs in breast-fed infants and then it is usually mild. This can usually be corrected by giving boiled water before nursing and reducing the nursing time to eight to ten minutes. In some cases it may be necessary to add casec (calcium casenate) to the water. (Four tablespoons to ten ounces). If it continues, it probably would be wise to wean the baby temporarily and give casec and skimmed milk or follow one of the above procedures.

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Acute Appendicitis

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Adding even a small paper to the already voluminous and increasing literature on appendicitis requires a great deal of courage on the part of the writer. The paper should contain some very constructive thought or else be admitted as a revision of previous ideas. However, any effort that might favorably influence the rising rate of mortality in appendicitis is sufficient justification for its presentation.

DIAGNOSIS

Appendicitis is considered a disease of young adult life, but the elderly and the young are not immune. Pain usually comes on unexpectedly, of moderate severity, in the region of the umbilicus or in the epigastrium; it may be either continuous or intermittent in type. In a short time nausea, with or without vomiting, occurs. Pain then becomes more or less generalized, finally localizing in the region of McBurney's point. Temperature rises but slightly in simple appendicitis, some observers even saying that a temperature of more than 100°F. is indicative of complications. A chill is very rarely the accompaniment of acute appendicitis. A mild leucocytic increase is noted in the ordinary case, with a sharp increase to 15,000 to 20,000 in the more virulent, near-perforation case. However, it is well known that perforation and peritonitis can occur in the presence of a normal leucocyte count. The total white cell count is generally accepted to indicate the resistance of the patient, and the polymorphonuclear percentage to denote the virulence of the organism causing the disease. It is unwise to use the laboratory report except as corroborative evidence; if it agrees with the diagnosis, it only makes the case stronger; if it disagrees, the physical findings should be accepted instead of the laboratory findings.

Rigidity is not an early sign of appendicitis. Tenderness and rigidity will vary with the position of the appendix. A retrocecal appendix will be protected by the overlying gas-distended caecum. A pelvic appendix will be protected by its position. A pelvic examination is indicated in every obscure abdominal condition. It is often possible to elicit pain and tenderness by turning the patient on the left side, which allows the examining hand to reach the retrocecal or posterior appendix by causing the caecum to rotate toward the midline. In children it is desirable to examine both sides of the abdomen by having the child lie on its stomach. In this way it is possible to elicit tenderness and estimate the degree of rigidity by comparison with the left side.

The differential diagnosis includes pyelitis and kidney disorders, pelvic disease,—such as ectopic pregnancy, salpingitis, ovarian cyst with twisted pedicle,—intestinal obstruction, gastric or duodenal ulcer, and gall bladder affections. Among those conditions that are extra-abdominal may be mentioned pneumonia, pleurisy, angina pectoris, and the bite of the black widow spider.

There are many atypical cases of appendicitis, and it behooves every doctor to be careful and methodical in taking the history, and in examining the patient. However, to wait for every detail of the case to develop into a classical textbook picture is to waste much valuable time and unnecessarily jeopardize the patient's life.

Time of Operation

At some time during every attack of acute appendicitis there is an optimum time for operation and if operation could be had at this ideal time in all cases the mortality rate would approach zero. This optimum time is as soon as possible after onset of the attack. To delay in order to determine the degree of infection, or to wait further developments in the case is dangerous. Every case of appendicitis not complicated by general or localized peritonitis, should be given the benefit of a safe and conservative operation at the earliest possible moment. It is impossible to tell by clinical or laboratory data the exact pathological condition of the appendix. The theory that appendicitis can be "frozen out" is a delusion, and those cases that recovered through the use of ice caps would have recovered anyway.

Among the many factors that tend to cause rupture of the inflamed appendix may be listed purgation, delay in securing medical advice, recurrent attacks, and the giving of pain-relieving drugs before a diagnosis is made.

The giving of purgatives in undiagnosed stomach ache is without doubt one of the major causes of perforation of the appendix. It is a very common practice in rural districts, but is also prevalent where a doctor is instantly available. Self-medication, and failure or delay in sending for medical attention are two preventable causes. It is generally accepted that the obstructive type of appendicitis perforates early. Recurrent attacks which cause stricture or angulation of the appendix delay the emptying or obstruct the lumen. Fecaliths also cause obstruction and thereby favor early necrosis.

Giving morphine or other pain-relieving medicine before the diagnosis is made is also dangerous. The infection continues to spread although the pain has been stopped. No purgative or other medicine should be given in a case of abdominal pain until a competent doctor sees the patient and advises it.

Delay in securing operative treatment after the doctor sees the case is sometimes unavoidable, as the patient may have to be transported a long distance. However, unnecessary delay is dangerous, and the responsibility of getting the patient to a hospital promptly for operation belongs to the doctor who first sees the patient.

In those cases of appendicitis in which perforation has taken place and a definite localized peritonitis has occurred, it is wise to treat the patient expectantly, allowing time for the abscess to become perfectly walled-off. About seven days are required for an abscess to become well walled-off and demonstrable. This patient should receive the same type of treatment with slight variations as that patient who has a generalized peritonitis.

If a general peritonitis exists the conservative non-operative treatment is the method of choice. Lest the laity assume that the profession is taking the non-operative view of acute appendicitis it is very necessary that the surgeon explain why the operation is not being performed at that particular time. It has taken many years to educate the general public that acute appendicitis is a surgical disease and it would be a grievous mistake to have to educate them all over again.

ANESTHETIC

The surgeon has a wide selection of anesthetic agents. The routine inhalation anesthetics, such as ethylene and nitrous oxide, give good relaxation in experienced hands. Cyclopropane has its advocates, too. Spinal anesthesia is also used routinely by many surgeons. It remains to be seen what use will be made of the newer intravenous barbiturate anesthetics in abdominal surgery.

It is unwise to give large doses of preoperative drugs (such as the barbiturates) as they depress and slow the respiration. This makes the anesthetization more difficult, and the patient does not ventilate his lungs properly after returning from the operating room, which favors hypostatic congestion and atelectasis. These complications occur after local and spinal as well as after inhalation anesthesia. A conscientious and efficient anesthetist is one of the surgeon's greatest necessities.

THE INCISION

We have found the McBurney incision adequate in nearly every case of appendicitis. Occasionally, due to a high adherent appendix, enlargement of the incision or the making of a second (right rectus) incision has been necessary. However, it is possible greatly to enlarge the McBurney incision by cutting across the rectus sheath without damage to the muscle and its nerve and blood supply. It must be borne in mind that the McBurney incision is made primarily for the removal of the appendix and not for exploration. It shortens the stay in the hospital from 5 to 10 days. Hernia is a very rare complication even after prolonged drainage and infection.

TECHNIQUE

There are three schools of thought concerning the treatment of the appendiceal stump. One school advises the ligation of the appendiceal stump without inversion. This procedure is unsurgical because it leaves a contaminated raw surface free in the peritoneal cavity, and does not secure sero-serous approximation of the tissues. Adhesions are likely to occur and there is also danger of the ligature slipping. Fecal fistulae, sinuses, peritonitis and intestinal obstruction are reported frequent following this method. Horsley advocates simple ligation because he has had no serious complications. Baldwin and Babcock object to the use of the purse string because it favors large sloughs of the head of the caecum.

The second group, and by far the largest, uses ligation and inversion of the appendiceal stump. It was first recommended in America by Senn in 1889. This method also violates a surgical principle by inverting an infected stump into a closed cavity. It has for its advantage that it peritonealizes the raw surface and leaves no contaminated raw area exposed. Mayo states that infection is always found in the inverted appendiceal stump. There is also slight danger of damaging the blood supply in making a closely stitched purse-string around the appendiceal stump.

The third group inverts the stump without ligation and gives the following reasons for this procedure: Hemostasis is secured by introducing a purse-string suture so as to include the intramural branch of the appendiceal artery; it does not invert an infected stump into a closed cavity and it leaves no raw surface exposed. This method was first suggested by Dawbarn in 1895. Ochsner inverts the appendix without ligation but uses black silk as a purse string. The objections that he raises to the inversion without ligation are, (1) danger of the stump opening and causing contamination before it can be inverted; (2) the possibility of postoperative bleeding from a branch of the appendiceal artery; and (3) the danger of perforating the caecum with the purse-string suture.

We have evolved a technique over a period of ten years which we believe has overcome the objections to the ligature-inversion method and has acquired the good points of the other two methods. Briefly, it consists of (1) ligating the crushed base of the appendix with *plain* catgut, which is absorbed in 4 to 6 days (according to Jenkins) and considerably sooner in the presence of infection; (2) the purse-string suture is of *chromic* catgut which absorbs in from 6 to 10 days; (3) the cup-shaped cavity of the appendiceal stump is very carefully cauterized with phenol, taking every precaution to destroy thoroughly the entire mucous membrane; (4) the purse-string suture is tied to approximation, but not tightly enough to cause constriction; (5) the inverted stump is then reinforced with two or three Lembert sutures; and (6) the meso-appendix is tied over the base of the caecum with this same suture.

This technique controls the possibility of hemorrhage in the appendiceal stump, and does not leave a raw contaminated surface free in the peritoneal cavity. The use of plain catgut in the appendiceal stump assures the evacuation of an abscess (if it occurs) into the lumen of the caecum. It is quite definitely shown by Jenkins that plain catgut absorbs several days earlier than chromic catgut. The reinforcement of the inverted stump and the tying of the meso-appendix over the base of the caecum are added precautions against the "blowing out" of the head of the caecum.

It has been my great good fortune to know personally of only one case and to have none of my own in which an abscess formed at the site of the inverted appendiceal stump.

Postoperative Treatment

Every operative case is given an intravenous injection of 1000 cc. of 5% glucose in saline immediately on return from the operating room. This replaces fluids lost by vomiting prior to operation and by perspiration lost in the operating room. It also lessens the patient's thirst, by supplying necessary fluids. Water is allowed in small amounts after reaction occurs. In those cases which vomit after recovery from the anesthetic a siphon-suctionage apparatus (Wangensteen) is introduced. Fluids are then given by mouth as well as by the intravenous route. The nausea and vomiting are usually cleared up in 12 to 24 hours.

Gas pains and distension are usually controlled by the use of a colon tube or flatus enema. The use of prostigmin and pitressin has been satisfactory although they are not used routinely.

Special attention is given to the urinary output. Patients are not catheterized unless absolutely necessary, even preferring that they stand on the floor to void rather than be catheterized. If it is necessary to catheterize, uritone is given intravenously twice a day.

Non-Operative Treatment

The non-operative treatment of appendicitis is reserved for those cases in which a local or generalized peritonitis has developed. It is essentially the same method devised by Ochsner in 1892. Both McGehee and Carter report from statistics of the John Gaston Hospital on the average mortality before and after introduction of the conservative method of treatment of peritonitis. The mortality rate dropped from 41.3% to 12.2%.

The essential points of the non-operative treatment consist of (1) True Fowler's position should be maintained in bed. (2) Nothing should be given by mouth unless a Wangensteen siphon-suctionage apparatus is working. (3) A Wangensteen suction should be introduced and kept working continuously, during which time water by mouth is permissible. (4) Fluids, usually 5% glucose in saline, should be given parenterally in amounts of 3000 to 5000 cc. per day. (6) Small doses of morphine to keep the patient mentally and physically quiet should be given. (7) Frequent determinations of the blood chlorides are made in order to maintain the chloride level while the Wangensteen apparatus is in operation. (8) Enemata are not given until flatus is passed. (9) Ice caps are used as an aid in controlling fever. (10) Heat is applied to the abdomen. (11) The routine care of the patient including temperature, pulse, respiration and blood pressure is assumed.

It is necessary that the patient be observed carefully day by day. The return of peristalsis, the decline of the temperature, the slowing pulse and respiration, and the expelling of flatus indicate the subsidence of the peritonitis, and the patient is very gradually returned to a normal postoperative routine. Patients are urged to return for an appendectomy after six weeks.

Conclusions

1. Purgation and delay in operation are important factors favoring perforation of the inflamed appendix.

2. The McBurney incision is adequate for most operations involving the appendix, and its advantages are enumerated.

3. A plea is made for immediate operation in the acute unruptured case, while conservative non-operative treatment is recommended for local and generalized peritonitis.

4. A technique for handling the stump of the appendix is described.

5. Interval operation is advisable in all cases

after recovery from the peritonitis.

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The Maternity Program In Pike County*

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Physicians have for generations past agreed that every woman is entitled to the advantages which medical service can give during childbirth. Universally, physicians have rendered this service alike to women of all stations in life. In recent years physicians are endeavoring to render medical care throughout the maternity period. This has necessarily markedly increased the time, effort, and responsibility of the medical profession to maternity cases. It is believed that health departments can and should conserve the physician's time, lighten his burden, and share with him this responsibility of rendering an adequate service to maternity cases. It must, however, always be remembered that the primary responsibility for this service rests upon the physicians of the community, and health department service is accessory to and under the strictest supervision of the attending physician. The maternity program in Pike County is a co-operative program rendered by the medical profession and the health department. It was agreed that co-ordination of the activities of the health department with the obstetrical care offered by private physicians would secure the greatest effectiveness for maternity and child health.

In 1936 the Pike County Medical Society invited Dr. Maxwell E. Lapham, then conducting a postgraduate course in obstetrics for physicians in the state, to make a study of maternity care in all its phases in Pike County and to suggest ways of further improving local maternity care. This study revealed many facts of real interest to the medical profession and public health authorities. The facts revealed coincided remarkably with those found by a similar study made previously in Gibson County, Tennessee, and thus indicates that the maternity problems in Pike County, Mississippi, are very similar to those of any average county in the South.

During the period 1931-1936 there were 35 maternal deaths, 165 neonatal deaths, and 168 stillbirths, or a total of 368 deaths incident to childbearing. This is nearly twice as many deaths from maternal causes as from cancer in the female age group 15 to 45. This places the risk of childbearing at the top of the list of the principal causes of death. Maternal deaths equaled the number of deaths from tuberculosis in women between the ages of 15 and 45 years and exceeded deaths from all acute communicable diseases in all age groups. Maternal deaths took twelfth place and stillbirths ranked fourth in the list of principal causes of death in 1936, and in the same year neonatal deaths accounted for 73 per cent of the infant deaths. When we consider maternal deaths together with neonatal deaths and stillbirths we realize that the maternity problem is a serious one and one that deserves serious attention.

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In Pike County, 45 per cent of the population is black, and during the six-year period studied 45 per cent of the total deliveries were cared for by midwives. There were over twice as many negro maternal deaths and over twice as many stillbirths in the negro as in the white group. Fourteen, or more than one-half of all maternal deaths, were due to single causes and included abortion, puerperal hemorrhage, puerperal septicemia, puerperal albuminuria and eclampsia. Infection was the most common cause. Two-thirds of the stillbirths were due to maternal conditions such as toxemia, hemorrhage, and syphilis, the last accounting for about one-third.

The neonatal death rate was higher in the white group. Seventy-five per cent of neonatal deaths occurred in the first five days of life. Twenty-two and four-tenths per cent of these deaths were due to prematurity; 20.6 per cent to birth injury; 6.7 per cent to infections in the child; 23.6 per cent to syphilis, toxemia, etc., in the mother; and 8.5 per cent were due to accidents before or after delivery, a total of 81.8 per cent representing conditions that are in a large measure preventable.

In Dr. Lapham's study an attempt was made to place responsibility for the deaths that might have been prevented. Indications were that nearly half of the controllable deaths were due to neglect on the part of the patient, or patient's family, and that the health department, the physicians, and midwives shared responsibility for the other half, jointly or alone.

Physicians attended 55 per cent of all births in Pike County from 1931 to 1936 and 22 per cent of these delivered by physicians were colored patients. There were complications of labor in about 20 per cent of deliveries studied. Fourteen per cent of the deliveries studied were operative. Eleven per cent were emergency hospital deliveries and 15 per cent planned hospital deliveries. There were 22 per cent of the cases studied that had postpartum morbidity. It was found that adequate public health nursing antepartum and postpartum care was given to only 11.7 per cent of cases delivered by physicians and only 12 per cent of cases delivered by midwives—a total of 23.7 per cent of all cases delivered. From foregoing findings, it was apparent that improvement could be made in the maternity care in Pike County.

After the study was completed, Dr. Lapham suggested that Pike County should provide: (1) medical maternity service through private physicians or the health department; (2) closer supervision of midwives; (3) nursing supervision during the entire maternity period for as many cases as the community can afford; and (4) education of the public in the essentials of maternity and infant care.

Representatives of the State Board of Health, the Commonwealth Fund, and Pike County met and formulated the policies, procedures, and nursing routines to be followed in establishment of home delivery nursing care in Pike County. Necessary items of equipment were determined. Dr. Lapham's study and recommendations were submitted to the Pike County Medical Society along with a description of the services the health department could offer in a more adequate, complete maternity service in Pike County. The Medical Society approved the suggested expansion of the health department nursing service and asked the State Board of Health to assist in providing such a service. The physicians pledged their co-operation.

To provide a service as recommended by Dr. Lapham, it was necessary to completely reorganize the existing public health nursing service in Pike County. In order to add this service without completely demoralizing the existing public health nursing service, it was necessary to add two additional nurses to the staff. The Commonwealth Fund, having been interested and largely responsible in developing the Public Health Program in Pike County, was asked again to assist in a financial and advisory capacity. The Fund agreed to contribute the additional financial support necessary for a period of two or three years, in order to establish the value of such additional service to the people of the community. Scholarships were provided by the Commonwealth Fund for the nurses to have four months special maternity training at the Lying-In Hospital in Chicago. Here the nurse was instructed in modern home delivery nursing technique.

The maternity program in Pike County is a joint service rendered by the physicians of the county and the health department. The nursing service is provided by the health department public health nurses, and is offered as an aid to the physician in the belief that with such aid better care can be given to maternity cases and infants delivered in the home. The success of such a service hinges upon the ability of the physicians and health department personnel to work together harmoniously and co-operatively. This nursing service is given only to patients in Pike County who are registered by a private physician with the health department before the fifth lunar month of pregnancy. If emergency cases arise, that for various legitimate reasons could not be registered before the fifth lunar month, service is rendered but only with the approval of the health officer in each individual case. Examples of such emergencies are: cases with unforeseen complications who seek medical attention late in pregnancy, cases who had expected to be delivered by midwives but subsequently chose a physician, and cases who have moved into the county after having passed the fifth lunar month of pregnancy.

Home delivery nursing service is offered on a 24-hour basis, seven days a week, and is obtained by the physician calling the health department between the hours of 8 A.M. and 5 P.M., or the fire department during the other hours. Calls by physicians only are answered—members of the family cannot call and obtain the service unless the nurse is assured that the physician is already present in the home and has authorized the call. The nurse goes to the case either in her own car or with the physician and leaves the case when the physician leaves, except on "false calls" when the physician feels that time of delivery is several hours off and the nurse may remain and prepare the patient for delivery and carry out any immediate orders the doctor may wish to give. After this is done she may leave the case, instructing the family to call her when they again call the physician.

The service is not planned now so that service can be rendered to all maternity cases in Pike County. As the demand is increased for physicians' services to maternity cases in the home, the nursing service will be explained to care for more cases. Only one nurse is now on first call and one on second call during each 24 hours. If either of the two nurses on call is available, service will be rendered but if both call nurses are on cases, the service cannot be rendered by a third nurse, because this would completely disrupt the other public health nursing activities. It has not thus far been necessary for any doctor to be notified that all nurses were busy and service could not be rendered.

Public health nursing service is rendered during the antepartum, intrapartum, and postpartum periods. The nurse makes an early contact with the patient when she is referred. Most patients are visited in the home but many colored antepartums are seen in groups, either in the home or in one of the four health centers. During the first visit the nurse takes the history of post medical, surgical, and obstetrical experiences, and obtains blood for a Wassermann. The blood pressure is taken, a specimen of urine collected and tested immediately for albumen, sugar, and specific gravity. Objective findings are noted such as edema, varicose veins, and other unusual conditions. Inquiry is made of subjective symptoms as nausea, headache, pain, bleeding, etc. If the patient is under a private physician's care, a written report is made to him stating blood pressure, urinalysis findings, and all unusual symptoms or signs. If the condition is acute the nurse advises the physician by telephone or in person. The uncomplicated cases are visited monthly—if complicated, visits are made as indicated.

The antepartum service is primarily a teaching procedure. The material taught varies with each trimester. In the first trimester, the nurse emphasizes the necessity for following in detail medical and dental advice given. She outlines health habits relating to diet, elimination, exercise, rest, recreation, and mental habits. She furnishes the expectant mother and the father with suitable literature, which outlines care during the first and second trimesters.

Her teaching during the second trimester conveys more detailed information on elimination through the kidneys, bowels, and skin. She warns against self-medication and lists danger signs and symptoms. She checks health habits and stresses avoidance of constricting clothing about waist and legs and assists in planning and preparing the layette, baby's tray and bed.

In the third trimester check is made on conditions previously observed. The teaching is centered more closely upon the coming delivery and the care of the newborn infant, emphasing the importance of breast feeding. Explanation is made of the use of silver nitrate for the baby's eyes and reasons are given for registration of the child's birth. Explanation is made of labor signs and when to call the physician.

Printed instructions in making home preparation for the delivery are given. The materials to be provided by the patient are listed and are in part as follows: newspaper pads, blocks for bed, four sheets, two pillow cases, one blanket, lysol, four towels, wash cloth, three dozen perineal pads, waste bucket, wash basin, mother's clothing, layette, etc. The patient assembles these supplies by the seventh month. If the physician feels that for any reason nursing care at time of delivery is not needed, patients are referred for antepartum nursing care only. The physician may know that hospitalization is possible, or he may use a nurse whom he employs full-time to assist him.

The health department provides, and the nurse carries with · her, adequate clean and sterile supplies for delivery. Such supplies are in part as follows: cord dressing and ties, dressing towels, sheets, leggings, doctor's gown and rubber gloves, cotton balls, large and small basin, enema can, razor, KY jelly, powder, thermometer, uterine packing, speculum tourniquet mucous trap, green soap, gauze sponges, handling forceps, scrub brushes, flash light, urethra catheter, head stethoscope, sphygmomanometer, and medication box containing emergency drugs, including caffeine, adrenalin, ergotrate, pituitrin, suture ampoule, silver nitrate, syringes, and needles.

At time of delivery the nurse's procedure is briefly as follows: washes hands, puts on mask, cap and apron, takes temperature, washes hands, prepares table or dresser for supplies, checks supplies, puts waste bucket by bed, prepares rectal set up, prepares "scrub" set up for physician, prepares for postpartum perineal irrigation, prepares enema solution and places it with shaving set up; prepares patient for shaving, shaves patient if so ordered by physician, gives enema if ordered by physician, sets up sterile supplies, and prepares patient for delivery, catheterizes patient; assists physician by pouring alcohol over his hands and assists with gown and gloves, pours soap on examining finger, and assists him in every way possible during delivery.

When the baby comes she hands physician cord tie, scissors, and dressing, collects cord blood, puts on baby's band, puts baby in blanket, assists in placing silver nitrate in eyes, puts baby in separate bed and keeps it warm. The placenta is delivered by the physician into a sterile basin held by the nurse. The physician then carefully examines the placenta. The nurse assists physician in care of the mother, disposes of refuse, watches pulse and fundus. Baby is then oiled by nurse and inspected by physician, and is dressed and given boiled water from sterile bottle and nipple. The physician then gives nurse written orders and she gives him birth certificate to fill out. They make out record of labor and delivery, and make final inspection of baby and mother before leaving the home.

On her return to the office the delivery nurse reports the delivery to the district nurse who makes a visit to the home within 24 hours after delivery, reporting findings and condition of infant and mother to the physician. Another visit is made on the fifth day and tenth day routinely and more often if necessary. A final postpartum visit is made at the end of six weeks, and if normal the delivery case is then closed, and the routine infant service given by the health department is continued.

A study of the home delivery service in Pike County during the first eight months of operation shows that 235 expectant mothers who delivered during this period were registered for the service. This represents 41.5 per cent of all deliveries occurring during the eight months period. Of the 235 registrants, only 154 received the health department home delivery nursing service. Of the 81 not receiving it, 22 were delivered in hospitals and 122 had a private physician's nurse assist in the home. This makes a total of 188, or 80 per cent, of the registrants receiving nursing care at time of delivery. One hundred and seventy-seven of these mothers, or 75.3 per cent, received the complete service, which consisted of antepartum, intrapartum and postpartum medical and nursing service. The other 11 were referred too late for the antepartum service. Of the remaining 47 not receiving nursing service at time of delivery, 29 were delivered by midwives, 15 were delivered by physicians who for various reasons did not call the nurse, two used out-of-county physicians, and one died of typhoid fever during the eighth month of pregnancy.

Of the 19 doctors practicing obstetrics in Pike County, 16 have thus far referred patients for the health department nursing service. This service was used in 166, or 66.9 per cent of the 248 home deliveries made by all physicians in Pike County during the first eight months of the service. It is interesting to note that since July 1, 1938, physicians have made 60.4 per cent of all the deliveries in Pike County. This is an increase of 5.4 per cent) over the percentage delivered during the six-year period 1931 to 1936. It is hoped that the new maternity program will eventually bring under medical care all the group now using midwife delivery service.

It is too early to venture any statement concerning values of the new maternity program in Pike County. I will submit for comparison the stillbirth rate, maternal and neonatal death rates among patients registered for health department home delivery service and those in the county not registered for this service.

BIRTHS, MATERNAL DEATHS, STILLBIRTHS, NEONATAL DEATHS AND RATES BY SERVICES
Pike County, Mississippi
JULY 1, 1938 THROUGH FEBRUARY 28, 1939.

	Registered for Home Delivery Nursing Care	Not Registered for Home Delivery Nursing Care*
Live births	225	325
Maternal deaths	0	4
Maternal death rate	0	12.3
Neonatal deaths	9	19
Neonatal death rate	40	58.5
Stillbirths	5	11
Stillbirth rate	22.2	33.8

*This includes all midwife cases.

There were no maternal deaths in the health department nursing service group and four in the other group. There was a neonatal death rate of 40 in the health department nursing service group, as compared with 58.5 in the other group. There was stillbirth rate of 22.2 in the health department group, as compared with a rate of 33.8 in the other group.

The physicians have indicated by word and action that they like this program. Their wholehearted participation indicates their approval. They tell us that many patients ask for the nursing service upon their first visit to the doctor's office. Letters of approval have been received from mothers and fathers using it.

The success of this work will continue to depend upon the harmonious co-operation of the health department, physicians, and people of Pike County. It is believed that if sincere effort to this end is made by all concerned, a favorable effect on maternal and infant morbidity and mortality will be evident in due time.

DISCUSSION

THOS. PURSER, JR. (McComb): Statistics will never accurately portray the full value of this service because the comfort, satisfaction, and genuine help to the physician as well as to the patient can never be computed statistically. We confidently expect, however, that as the number of cases continues to increase that there will be an appreciable lowering of mortality and morbidity rates both maternal and neonatal. The physician is better able to do his work because he is free to limit his activities to the actual management of the delivery. He does not have to supervise such details as giving of enemas, shaving patients, seeing that the fire in the stove is kept going, that instruments are sterilized, etc. He is stimulated to use the most nearly perfect aseptic technic possible because he is aware of the presence of one who knows good technic when she sees it.

This service is not to conflict with hospital cases, for where difficult abnormal cases are encountered, the hospital is still the best place, and the home can never be made as suitable a place as the hospital delivery room. In difficult cases though where it is impossible to provide hospital facilities, the nurse and her equipment are of inestimable value.

The public health nurse on this duty does not compete with the private registered nurse or the practical nurse. It is just as desirable as ever to have a special nurse on duty with an obstetrical case because the public health nurse is not present constantly only when the physician is present.

There is no conflict with the physician because he is at all times in full charge of the case and in complete authority of the nurse. She acts only on his orders.

It is my opinion that this is a home nursing service for obstetrical cases which closely approaches perfection. Any further improvement in home delivery must come from the physicians themselves, for it is obvious that no degree of nursing skill will compensate in the slightest for any lack of skill exhibited by the obstetrician.

This service has been extremely successful in Pike County for the following reasons:

1. It fills a genuine need.
2. It was well planned on sound principles before its inauguration.
3. It has been capably administered.
4. Our nurses are the peer of any in their training, skill, ingenuity, tact and general ability.
5. It has produced results.

Dr. A. V. Beacham (Magnolia): I would like to add my opinion to what Dr. Purser has said. It has been a source of satisfaction to me as a young physician coming out of one of our modern hospitals to be allowed to practice the type of obstetrics I was taught to practice. Last week I had one of these cases which I got a very severe tear and I was able to repair it under aseptic conditions. In hands such as Dr. Haney's we have nothing to fear in the line of encroachment upon the lives of the private physician, that is, the number of babies of Pike County during the last eight months has been perceptibly greater than it was hitherto. The patient is more anxious to have a physician in order that she may have this delivery service. Two years ago Paul Haney led the way with his syphilis control and now with the help of the Commonwealth Fund he has again inaugurated a thing which in future years is destined to be an advance in medicine.

Dr. A. R. Perry, (Laurel): I have not had any experience with matters of this kind, but I have been impressed with Dr. Haney's wonderful paper. It seems to me that if we are ever going to get away from our unenviable position now of having one of the highest maternal death rates in the world, that is among civilized nations, that we are going to have to make some departures from the routine as practiced now. It may be possible that such a program as Dr. Haney has explained will help us cut down the mortality incidence of childbearing that we have been experiencing for the last several years in this country. Of course, as Dr. Haney says, it is too early to judge; only time will tell whether this program is going to affect the mortality rate that we are having at present. I hope that we can get such a program started in my county sometime in the future. Of course, it takes money, but I believe if it turns out as well as it promises it will be money wellspent.

Dr. Blackwelder: I am not much of an obstetrician, but I do believe in figuring on the effects obtained. The taxpayers will, if this program is put over, assume the responsibility financially. I was just figuring out the cost, if Dr. Haney pays his nurse in McComb what they are paid in other counties. I understand they have had to put on two extra ones to carry on this program. Granting that they are paid $2400.00 a year or thereabouts, in the 8 months' period they would have paid those nurses $3200.00. They have had 154 deliveries during these eight months which would make approximately $21.00 per patient that the taxpayers of McComb will pay if they are paying these nurses what we have to pay. Is the service worth that? Is that the most economical way to handle it? Could some other arrangements be made whereby the doctors could be assisted by a well-trained nurse in these deliveries and not be connected with the county health department?

Dr. Wm. Biggs (Osyka): I am a practicing physician in Pike County, and I would like to say we are 100% behind Dr. Haney on that program. I think the reduction in the maternal death rate is well worth any money spent by the taxpayers and if you get a few women's clubs or organizations behind the program you won't have any trouble in getting it over.

Dr. Felix J. Underwood, (Jackson): All I can say is if I ever go into the practice again, and do obstetrics, I would like to practice in a county that has this service. I think this is due the women who bear children who are not able to have the nursing service at all. I think the physician whose responsibility it is to deliver these women—whose responsibility for their health and life is in his hands—richly deserves this co-operation and this service even though the local taxpayers have to pay for it. Nothing in this life that I have found is worth very much if we don't have to pay for it.

In my opinion Dr. Haney and others who are interested in the program are watching this thing and hoping and believing it will be worked out and be considered successful. If it is we hope to be able to extend it to other counties, as physicians feel that they desire to have the service where the financial end of it can be arranged.

It is not only good for the mother and baby but since it would lower the mortality rate, it is good for the physicians; it is a wonderful thing to go out into the country homes, rural homes, and have everything ready—already prepared, and the nurse there not only to look after the patient but look after you. I feel it ought to be appreciated by the physicians and I understand that 16 out of the 19 physicians in Pike County doing obstetrical work have asked for and have appreciated this co-operation. We are hoping that it will work out and that we feel that it will work out and that we will feel that the outlay will be worth the money from the standpoint of lowered maternal mortality and will further lower the infant mortality.

May I have one word about the pneumonia program? I know I am out of order, but I want to say one word about that. Things are moving pretty swiftly—we are not standing still in the practice of medicine or in our school work, our road building, or anything else in these days. It looks like we are more progressive than ever before. It seems that more progress has been made along all lines in the past ten years than in 25 or 30 before that time. I had outlined a pneumonia program and expected to ask the profession's help in the next legislature to put such a program on. We were going to have in this pneumonia program approved typing stations and serum, designated serums for typing pneumonia. Not many rural people, especially the tenant class, could pay for treatment with serum, but we would have free treatment for the indigent, and motion pictures for the education of the public, and a health nurse to help in home care with regard to pneumonia. Now, this obscure little sulfapyridine drug comes along and "caflooey" goes the whole program. It may not be necessary at all to plan for this, but we are in the attitude of watchful waiting to see what sulfapyridine will do. But I sincerely hope that the sulfapyridine will do the work, and it will not be necessary to go into an extensive state-wide set-up to help you practicing physicians and the poor with pneumonia who cannot buy serum.

Dr. G. S. Bryan: I hate to make this statement but the expense is not over $60.00 per patient with serum. In some places certified serum is provided by town, city or state to treat a case of pneumonia with serum and the cost is about $60.00.

Dr. Underwood: I think it would cost less with general use, and if it did not come down the biological houses could bring it down. There is nothing to keep us from manufacturing it ourselves like we do typhoid and other vaccines. We have manufactured typhoid and rabies for years and we certainly could engage in the manufacture of pneumonia serum if we had to.

Dr. H. F. Garrison (Jackson): I feel that I should apologize for getting on the floor again, but I want to congratulate the Health Department of Pike County on inaugurating this service. I do not do obstetrics, but I do get some of the end results of it, and I know something about the statistics in regard to infant mortality rates. It is probably well known to most of you that the majority of babies that die, die before the first month. Now when you begin to analyze that situation you can, I believe, more sympathetically appreciate this service. I think Dr. Underwood and Dr. Haney and others who have inaugurated this system should be congratulated; it is one of the most far-reaching programs that could be adopted by our State Board of Health.

You know the prenatal as well as the postnatal service in this state is certainly something that needs our serious consideration. Every physician should bestir himself to get busy on this. As a pediatrician I see a number of cases, surprisingly and pathetically too many, of congenital syphilis. You know there is not any excuse for seeing a case of congenital syphilis, I think, but for ignorance and neglect. Of course, the physician recognizes the condition before the baby is born and that is the only means on earth of preventing congenital syphilis in the newborn, and it does have its bearing on our infant mortality rate.

Dr. Paul Padget (Baltimore, Md.): I think that perhaps I have bored you enough with the sound of my voice—the harshness of it I have become perfectly aware of as I have listened to the gentlemen from Mississippi speaking. I have enjoyed very much being here and being a member of your program, and I would like to add a word on the prenatal care that Dr. Haney has described and to emphasize the point that Dr. Garrison brought out. It is nothing short of a confession of negligence which may in some instances amount to criminal negligence for us ever to see an infant with congenital syphilis. That is a disease which is so completely preventable that we should never again be able to recognize congenital syphilis in the newborn child.

Dr. Paul Haney (closing): I would like to say one word or two, first to thank Dr. R. V. Beacham and Dr. W. O. Biggs for coming here and making the discussion for me, and I want to emphasize again that this service is for the private physician. I would like even after I sit down to have discussions from other private physicians here, or questions they may have in their mind. This is a service for private physicians and it is my hope that this service will reach every corner of this state before so very long, and I believe it will.

I would like to add one thing to Dr. Garrison's statement in regard to infants who die in the first month of life. Seventy-five per cent of infants dying in the first year of life, died during the first month of life, was our experience in the study we made in Pike County. I would like also to mention Dr. Padget's statement that all of these cases be examined for syphilis during the antepartum period and in last year's experience 95% of all of our cases that were found with syphilis were placed under treatment for syphilis before the baby came. I have a list of equipment here that shows what is used in our maternity pack; if any of you are interested I would be glad for you to take one of these pamphlets.

Dr. Hedmeg, (Natchez): I would like to ask one question as to cost of equipment. We have a large negro population. We have a high mortality and the cost to those taxpayers, of course, is going to be an element. We have that percentage of the negro population to consider, and of course, a great percentage are delivered by midwives.

Dr. Paul T. Haney: Our original cost of equipment was approximately $1,400.00 — that was the necessary outlay for our new equipment necessary. $800.00 of that went for an autoclave, which of course was necessary to sterilize our equipment, and $600.00 went for other equipment necessary.

Also answering Dr. Blackwelder about the advisability of placing these services under the Health Department, I feel that the very first requisite for this service is a well established full-time health department. I would make that statement because of the observation in my own county. Before this was organized the WPA back in 1934 attempted to put on such a service. Of course, it was unsatisfactory, because it did not have the properly trained individuals, the amount of proper equipment, the proper supervision. It was not under the medical profession or the supervision of the State Medical Association as is your health department. There was discord between physicians; when they could not get the WPA nurse there was ill feeling. Naturally that nurse, which is too often the case, maybe liked one physician or one type of service better than she did the other, and she did not hesitate to talk to other physicians or to people in the community about how this and that physician carried on his obstetrical work, and that cannot exist and have a successful program of this type. When placed under the health department supervision the nurses also do public health work and thus the cost can be estimated as a cost per maternity case.

I would like to add one more word. There was a statement this afternoon that 1,000 deaths occurred from pneumonia in the United States each year. In our observation in Pike County, and it is no different in any other state, we found 61 deaths in one year incident to childbearing. That means for the State of Mississippi 5,000 deaths and for the United States 250,000 deaths. We can easily see the enormity of our maternity problem in this country. When we think of cures and of saving money, we can exert our effort in no place that will give us greater returns than when we do something about our maternal, infant, and stillbirth deaths.

Dr. Will Mayo

W. A. EVANS, M. D.
ABERDEEN, MISS.

TODAY'S newspapers (July 29) carry a notice of the death of Will Mayo. He was said to have passed away in the early morning of July 28. Since he was well into his seventy-ninth year it seems probable that the principal cause of death was what we speak of as the infirmities of age but the newspaper story gave no information on that point. However, two recently occurring incidents were doubtless important contributing factors. A few months ago he was operated upon for ulcer of the stomach and a few weeks ago Charlie, his brother and lifelong team-mate, passed away. In a team that had held through a long life, as Will's and Charlie's had, the death of one must have thrown a fearful strain on the surviving member.

Thus the end is written to an ideal career that may not have had its equal in all history. Probably neither in medicine nor in other fields have two brothers worked together so long and so successfully, co-operating to build up not only a medical machine that is known and admired all over the world, but to create a method of practicing medicine that has been copied all over the English-speaking world at least. The members of the profession have often wondered how it came about. The story has been written often and nearly every one has read it. In addition, thousands of physicians have gone to Rochester during the last half century to see the Mayo machine operate and to try to understand it.

But that has not been enough to satisfy some of them. Many have asked Will or Charlie how it all happened. They were told that the principal cause was the reputation of their father and the good will of the people who knew him.

The story, almost in the words of Will, is:

Father (Dr. W. W. Mayo) was an old style democrat, whether the word began with a big D or a little one. He practiced in Indiana and helped to start a medical school there. He next moved to Minnesota where the country was young and thinly settled. The population consisted mostly of strong healthy Scandinavians. At first there was not much medical work to do and W. W. Mayo filled in by surveying. He was in the party that made an early survey of the state and he headed the crew that established the county which Dulath developed later. Later, he became clerk in a steamboat on the river. James J. Hill, the empire builder, was a mate on the boat. He moved to the village of Rochester to examine recruits for the army during the Civil War. After that war there was a perpetual fight, principally with the railroads over such questions as rates, routes, location of tracks and facilities for elevators. The people fought through their legislatures. When the burdens the people carried seemed beyond their endurance they had the habit of coming to W. W. Mayo and telling him he had to go to the legislature to fight their battles. He accepted the job. He was periodically fighting the people's fight in the legislature and everywhere else for twenty-five years.

The northwest was opened up all the way to Washington and Oregon. The men who were Dr. Mayo's patients—many whom he had brought into the world and many who had called on him to fight their battles in the legislature and in the courts—moved out to these far Western states and there became judges, governors, senators, bankers and prominent citizens generally. When in later years people would ask their banker, their mayor, or governor, what about the Mayo Clinic, the common answer was: "We don't know the boys but if they take after their father you can trust them with your life, your health, your money and with anything else."

When one asked Will how he got started in surgery his reply was about this: He didn't have to get surgical patients to coming to him. His father and his associates did all the practice in Rochester and around. In that large number of sick people there were many who needed surgery, knew they needed it and were looking out for chances to get it. He came home and went into the firm. The people had known him all his life. Old Dr. Mayo said he knew how to operate, and that was all the people wanted to know.

It all summed up in this: Their success was due to environment. They located in a growing country. The people succeeded. Those who went away became influential in the places they had moved to. All of the people trusted old Dr. Mayo. He and Charlie capitalized on that trust. And yet while they put opportunity and environment in first place they would give some credit to inheritance.

They admired their father. They liked to talk about him and they built parks and erected monuments to his memory. But above their father they admired their mother. She was the poise, balance and hard sense of the Mayo team. From her they inherited their love for accuracy and science, their cool judgment and common sense, and their flare for values and practicalities.

When one asked them whence came the vision, the imagination, the foresight — who figured it all out in the years before it happened—their answer was, there was no conscious foresight or planning. They just tried to do every day the task of that day, letting the task of the morrow wait. (Dr. Osler was right in his address to the Harvard students when he told them to do the day's work the best they could and let tomorrow take care of itself.) Nobody ever accepted that statement at full value, but men put it in the same class with the statements that all the credit belonged to the old democrat, Dr. W. W. Mayo. All of it was true but it was not the whole truth. The men had genius, a peculiar genius and it manifested itself long before there was a Mayo Clinic.

The practice of medicine in Rochester was not greatly different from that in similar towns elsewhere when Will Mayo located there to practice. The feeling among physicians toward each other was somewhat different from the average and for that the old doctor was principally responsible.

Will "set about" to get them into one group and divide the country between them geographically. One took all the practice to the north and the other to the east. This cut out all duplication of travel and saved time. Starting in the early morning the doctors could make rounds by noon or early afternoon and have time left for office hours which they kept. They discussed the different points about their cases later in the day. Nobody knew it but this organization for taking care of the community needs with time saved for office hours and study was the foundation stones laid for the future Mayo Clinic. The community having been organized and trained to come to the doctor's office so long as the cases were ambulatory, the next step was to organize the patient. The human body was divided up and each part was assigned to one particular doctor that he might improve his knowledge and skill in that field. Will was the general surgeon. Charlie was shifted several times. At first he was the obstetrician. Next he was the nose, throat, eye and ear man. Next the surgery was divided into two parts. Charlie was given the surgery of all the anatomical parts above the diaphragm and Will returned to the abdomen and all that lay between.

This division came natural to Charlie because it developed out his nose and throat surgery. It resulted in Charlie becoming the goitre surgeon.

It was also responsible for Will's famous joke: "Charlie is the head surgeon—I am only the 'belly' surgeon."

With this division of the human body and of the fields of practice that went with it the walls of the Mayo Clinic began to rise on the foundations already laid.

It is worth recording that although they changed their methods of practicing medicine and always for the better, as experiences proved, they never lost sight of the good points in the method by which they had progressed. Their staff was composed of many specialists, each limiting himself to a particular field. They always provided for a co-ordination.

The patient entering the clinic first went through the hands of a genuine diagnostician whose business it was to consider the patient as a whole. Having gone through the hands of many specialists the patient finally came to a co-ordinator who had all the reports of all the specialists and also the patient in his hands for the final study. In the great combination there was a specialist in the field of inheritance and, in further recognition of the excellence of old style practice, there was a man whose business it was to see bedside patients in hotels, boarding houses and in homes in the town and to listen to the recitals of pains and discomforts, "even as you and I do." They gave evidence every where and often that they believed in education and training and yet they did not overlook the fact that genius did not always find opportunity for training.

In the selection of interns, research students and men for finished training they strove to get men from the best schools but in each one hundred vacancies they reserved a certain minority of places for promising individuals whose training had not been of the best according to orthodox standards.

It is customary to compare Charlie and Will. Sometimes these comparisons are correct. More frequently they are in considerable measure incorrect. Charlie was the brighter, the more agile-minded, the wittier, and the better companion for the average man under average circumstances. He may have been the better surgeon so far as the art of surgery and the manual dexterity required was concerned. Will had a way of saying "Charlie does that operation better than I do. Somehow he has a knack that I can't quite catch."

Charlie told a story better than Will did and he had a better line of small talk. As an operating surgeon or the operating surgeon of the greatest surgery clinic in the world, as a councilor and member of the firm of organization and administration—as all of these he deserves every complimentary thing that has ever been said of him.

But after all has been said it was Will who put the Mayo Clinic on the map. His was the vision, the magnetism which conceived it, the organizing ability which organized it and the administrative ability which kept it always on its keel regardless of the direction of the wind, its fierceness—regardless of everything.

He had every strong quality and capacity that Charlie had and he had that something else necessary to change a great success into the medical phenomenon of the age.

One paper today said he had no humor. That is erroneous. He was short in that but his sense of humor was superb. If you could not learn it otherwise you could read it in his eye and in the parts of his face round about. That wonderful eye told another story also. It was level always; Will Mayo's mind was level always. He had a judgment and poise and common sense. He was always thinking and he always thought straight. He said, more than once, that no physician could afford to indulge in sentiment. His decisions were too important for them to be vitalized by sentiment. Not only as a surgeon and physician but as the creator of the Mayo Clinic and as a powerful influence in American medical opinion he thought straight, allowing nothing to vitiate his thought. He read much and he traveled much. He knew medicine and men and much else—as much as any man could—besides. A long time ago, before the fame of the Mayos had traveled everywhere, a professor of the University of Chicago, not in the field of medicine, went to Rochester to attend a meeting. He was assigned to the home of Dr. Will. He had never heard of his host. When he arrived Dr. Mayo was still at work. The visitor was shown into the library and told to make himself at home. He put in the time reading the titles of the books on the shelves. He found good books in almost every subject. He wondered who read and who was interested in such a wide range of subjects. Later Dr. Mayo came—they talked a long time and on many subjects. Then he knew who read and who was interested in such a range of subjects. But still he did not know of the position Dr. Mayo occupied in the world. He came back to Chicago and inquired who was that country doctor who owned such a library, who knew so much and who thought so straight on everything he talked about.

Take him all in all, Will Mayo was one of the brainiest men America has produced. He deserved to rank with Benjamin Franklin, Thomas Jefferson and Alexander Hamilton. What a President of the United States he would have made!

All physicians in this country are asking what will become of the clinic now that Will and Charlie are both dead.

A partial answer is that for twenty years the Mayo brothers have been asking that question and trying to find and to build the answer. I think they have succeeded. Their plans were launched years ago and they have been maturing substantially, naturally and wisely.

If the Mayo Clinic does not endure then it lies beyond human power to build an enduring institution.

Did you ever read Will Mayo's article in the Mayo Clinic, published in 1931 (if memory serves right)? The subject is, "The Reasons Why a Man Should Change From the Field of Operative Surgery to That of Consulting Surgeon When He Passes Seventy Years of Age," or essentially the title anyway.

The article is short and well worth reading. It is forthright, straight-forward, and eloquent in its simplicity. It talks good sense and good judgment. Beyond all this it is worth reading by the man who ponders: "What is to become of the Mayo Clinic?" The same balance, poise and everyday common sense found in that article show in the plans for the future of the "Mayo Institutions."

Federal Court Holds Indictment Invalid

The opinion of Justice M. Proctor in the District Court of the United States for the District of Columbia on the demurrer to the indictment against the American Medical Association was issued by the Department of Justice for morning papers of July 27, indicating that further action is contemplated by the Department of Justice in relation to this case.

After indicating the nature of the indictment and the five forms of conspiracy that were charged, Justice Proctor listed the chief contentions of the demurrer. It is his opinion that medical practice is not a trade within the meaning of section 3 of the Sherman Act. Particularly interesting in Justice Proctor's opinion is his analysis of the indictment. Thus he said:

"The defendants have raised objections to the sufficiency of the indictment as a pleading. These go mainly to the claim that many of the allegations dealing with essential and material features of the charge are vague, indefinite and uncertain. The objections are far too numerous to deal with separately. There is merit to many of them. The indictment is afflicted with vague and uncertain statements. In some instances material facts are altogether lacking."

Moreover, he said in relation to that part of the indictment which contained the charges against those indicted:

"The inducement, as well as the charging part, setting forth the plan and purpose and acts done to effectuate the conspiracy, abound in uncertain statements. Inference, opinion and conjecture are also freely indulged. This is especially so in the inducement, much of which seems unnecessary to a statement of the charge. It is questionable whether some of it would be deemed relevant and competent in proof of the offense. Every indictment should be confined to a clear and dispassionate statement of essential fact. Thus an accused can better know the exact offense with which he is charged and will not be confused in making his defense. Ordinarily improper matter in the indictment unnecessary to support the charges will not vitiate the indictment. It will be treated as surplusage and disregarded. But I doubt if such treatment would suffice to relieve these defendants of the prejudice likely to arise by an indictment which smacks so much of a highly colored, argumentative discourse against them. It must be remembered that when a case is finally submitted to a jury for their secret deliberations the indictment goes with them."

In its press release, the Department of Justice indicates that it will seek a reversal of the decision handed down by Mr. Justice Proctor. It makes the statement that the release is issued not for the purpose of commenting on the opinion but for the reason that it is important to inform physicians generally that, until the Supreme Court has acted, the government policy toward boycotts in the medical profession is unchanged. The Department of Justice says further that it will use every effort to get a final decision from the Supreme Court at the earliest possible moment and that it may consider the possibility of calling another grand jury to consider another indictment in a different technical form. Finally the Department of Justice states that announcement of the exact steps which will be taken by the government will be made within the next ten days.

In response to this pronouncement of the Department of Justice, Mr. Seth W. Richardson, one of the attorneys representing the American Medical Association, gave the following interview:

"The warning issued by the Anti-Trust Division (of the Justice Department) to the medical profession generally, following the filing of the decision of the District Court on demurrer, was both impertinent and unnecessary.

"It was impertinent because, as the division should know, the government has no jurisdiction whatever over the medical profession, save in the District of Columbia, and medical men elsewhere need pay no attention to the threats of the Anti-Trust Division.

"The 'warning' was unnecessary because the members of the medical profession did not, do not and will not violate any of the anti-trust or other statutes in the pursuit of their calling.

"Finally, with reference to the statement of the division that the present decision is not a controlling precedent and that new grand jury proceedings may follow it, it is sufficient to reply that until the present ruling is reversed counsel for the defendants believe that it stands as an effective bar to any similar abortive attempts on the part of the division to make further legal 'experiments' upon the doctors in the District of Columbia."

The conclusion seems inescapable that the Department of Justice has embarked on a course of prosecution if not persecution of the medical profession in this country with a view to forcing its contentions as to what should be the nature of medical practice in the United States. Failing to obtain a consent decree, it proceeded to secure an indictment. Attorneys for the American Medical Association, obeying the mandate from its Board of Trustees, sought to obtain a quashing of the indictment by the filing of a demurrer. Now Justice Proctor has declared in no uncertain terms that the demurrer is sustained and has indicated that much of the language of the indictment is "highly colored, argumentative discourse." Not satisfied with this decision, the Department of Justice proposes to continue to seek to undermine the confidence of the people in the medical profession. The question may well be asked as to whether or not this is justice or persecution. The members of the House of Delegates of the American Medical Association have authorized the Board of Trustees and the officers to utilize to the utmost the resources of the Association in combating this attack by the Department of Justice. The opinion of Justice Proctor lends encouragement and is an inspiration to continuous effort in behalf of a free profession. The medical professon of this country will not be coerced, threatened, abused or otherwise maltreated, and it will fight to the finish when its high traditions demand a righteous resistance.

—Editorial, JOUR. OF AMERICAN MEDICAL ASSOCIATION.

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MEDICAL LIBRARIES

Mississippi should be justly proud that two quite extensive and worthwhile medical libraries are being developed in our state. Dr. Rowland, of the University of Mississippi Medical School, is developing one of the finest reference libraries for medical works in the South and it is indeed a great asset to the doctors of this state. Certainly every alumnus of this school should take interest in the wide-awake work that he is carrying on and should contribute in every way to its success. I am sure that means are at the disposal of each doctor in this state to furnish this library with some excellent material which can be well used by the school and able Dr. Rowland. Begin now to help out in some way.

The Mississippi State Board of Health has developed quite a large library, on a small scale to begin with, which has grown to some size. Here is found the excellent co-operation needed in looking for subjects, items and reference work of all kinds. It is a very necessary one also, in the scheme of medical things in this state. Miss Williams is found to be quite co-operative and able and, I am sure, well versed in her work. It is believed that with the development of a charity hospital in the central part of the state, with the State Hospital for the Insane at Whitfield, Mississippi, and the State Tuberculosis Sanatorium at Magee, that some form of reference library will be necessary in the central part of the state for training of interns and young physicians.

The distribution of medical libraries in Mississippi is quite well arranged geographically and by population so that those that seek may find—without too much seeking. Let me urge you to avail yourselves of the medical library facilities in our state. Let me also urge you to contribute in any small way to their growth since they are both already a great success.

— L. W. L.

MEDICAL RADIO BROADCASTING

Medical broadcasting has become a necessity to aid in the medical education of the public for health benefits, for our own protection, as well as the health of the nation. One of the latest developed means of publicity to the people, in the past few years, has been by radio communication which is almost universal in our nation. It is one of the means of reaching all the people all the time, even the low percentage of our population who cannot read. It should be used more by the medical profession in an impersonal way and in the name of the Association. Certainly the medical society composed of Issaquena, Sharkey, and Warren counties has made a diligent effort and one which can be commended by all in the manner its program has been carried out. I would urge all societies, who have available to them the use of the radio broadcasting method, to use it for the education of the public on matters medical.

It has been brought to my attention by many people that the radio is used by charlatans and quacks as a business venture and attempts to increase their income. The medical profession, of course, has always used such means of reaching the people as an educational program to better the health of the people and never for personal gain. It is part of the pleasure and honor of being a doctor and adhering to the doctrines and ethics of an age old profession which we revere and esteem. We are so glad to be part of it.

Some radio broadcasting stations have not established a code of ethics for their broadcasting, but will take many doubtful commercial ventures. While some would not broadcast dubious legal advertisers, if there be such, or many other near-professionals, or cultists or quacks, some will accept for fees under contract any form of advertising without regard to the health of the community. I have in mind one station which is owned and operated by a life insurance company, which stays in business and makes more money the longer people live, but who allow to be advertised over their stations such quacks who would hasten the death of some of their insured.

It is certainly hard to conceive that any organization could not have enough foresight to see this—that unrecognized disease will advance and go beyond the place they can be cured while fooling with such advertised quacks. Certainly a life insurance organization is closely bound and allied to the medical profession and should be in a position to see this condition. I think it behooves the medical profession to do some educational work also along this line at this time. It would certainly be a measure worth while to bring this to the attention of the people interested in radio stations and aid them in forming a code of ethics for the protection of the masses of the people, even unto the illiterate who hear these programs.

— L. W. L.

There is a very close relation between the medical profession and the pharmacists. It should be closer than it is. A good pharmacist is the right arm of the practitioner and he is really a valuable friend to the public. We express our deep regret to The Mississippi State Pharmaceutical Association in the loss of their able and efficient president, Dr. T. H. Spencer, and our sincere sympathy to the family.

The Staff Meeting of the Houston Hospital was dispensed with last month and a picnic and "variety program" was held over at Slate Springs. We appreciated a part on the program. Dr. W. A. Evans of Aberdeen and Dr. D. V. Galloway from the State Board of Health were the chief essayists. Their lectures were fine. A number of the citizens of the community which is the home of Dr. B. J. Shaw, were present. A wonderful supper was spread at the close of the meeting. We think more meetings of this type are in order. They will help to bring about a better understanding and a closer relation between the profession and the public.

At the July staff meeting of the Ivy Hospital, West Point, Dr. Lon W. Dotson discussed the use of sulfanilamide in the treatment of gonorrhea and pneumonia, and reported a case of gonorrheal ophthalmia cured with it in ten days. Other case reports of interest included a prostatic operation by Dr. George Campbelle with the McCarthy endoscope, and an infected leg caused by mycetism, treated by Dr. A. K. Naugle, Sr.

The next meeting of the Northeast Mississippi Thirteen County Medical Society will hold its quarterly session in Aberdeen on Sept. 12. Dr. Luther McDougal of Paris Texas, will be the guest essayist and his subject will be "The Feeding of the Normal Child." Aberdeen will not leave anytihng undone that is pleasant and profitable for the guests.

It is time to be thinking about the Mid-South Postgraduate Medical Assembly which convenes in Memphis in February. It is one of the best meetings in the United States of its type. You get a review of the latest and the best in surgery and medicine in a four-day course. We expect to have a list of the essayists by next month.

For the good of the profession and the benefit of the people there should be active and enthusiastic cooperation at all times between the practitioner and the public health service.

When it comes to infections and contagious diseases, never have today what you can put off until tomorrow.

In this day of specialization, the practitioner may feel that his part is of small importance in the field of medicine. But we believe his is a most important role and his opportunities will be greater in the future because it is being realized that to conquer any disease common to man, all the profession must present a united front. Also, medicine is gradually conquering many of the conditions that formerly were accepted as surgical. Since the rural community and small town are the greatest source of the nation's manpower, then the practitioner's responsibility in guarding this wealth through maternal and child care in of tremendous importance. Glory and honor to the practitioner's place in human affairs.

When the lamented Dr. J. W. Young was elected president of the Mississippi Medical Association, he said, "I had rather be president of this association than to be president of the United States of America. My reason for this is that this office is not political, hence not to be sought and schemed for." He further said, "I accept the honor with both pride and humility—with pride because it is a token of love and respect from the finest and greatest body of men known to me—with humility because I feel that I am not qualified to discharge the obligations that accompany the office." Dr. Young was not a brilliant man—he may not have initiated as much that was for the advancement of scientific medicine as others have done but "for a' that," he was a man—an upstanding and honorable man. While the association did honor him, he, also, honored the association. A few years later, I , too, received the honor, although I know full well that I did not merit this honor. I doubt if any man ever did, or can deserve such an honor. We have a wonderful association made up of wonderful men. Those who have been honored with the presidency, are, as a whole, a splendid group of men. The passing of the years does not seem to lessen their interest in scientific and progressive medicine nor in the conduct of the association. They always attend and manifest genuine interest in the meetings. Of those still living, not less than eighty per cent are always present. If the same per cent of the entire membership should attend more than twice as many would be there. These men are not seeking or expecting honors. They are there because they love the association and because they are actuated by a sense of duty—duty to the association—duty to themselves and to their clients whom they serve. No man who wilfully absents himself from such meetings can keep abreast the progress of medicine. Any one who denies himself these benefits is not fair to himself, neither does he deal fairly with his patients. Both he and they are entitled to the best there is in medicine. When one has done his best, he will, both, deserve and receive honor, whether he is elevated to high position in his profession or not. Both his confreres and his people will respect and love him, and above all else, he will respect himself. History records a man, who, when dying through patriotism, said, "If I had a thousand lives to give I would cheerfully give them all." Personally, I deeply regret that I have not another life to live that I might devote it more faithfully to medicine. Medicine is too big a problem for any man to face alone—it is only by and through combined effort and organization that this problem can be met and solved. And, only when we forget self and self promotion and self aggrandizement can we do our part and duty in the work in which we are jointly engaged. Close organization is not only important but imperative if medicine is to remain the leading science and its devotees shall retain their self-respect and that of the public. When state politics shall have been permitted to touch medicine its doom is sealed—it will have fallen from its high estate. When any third party or interest shall be permitted to intervene or interfere between physician and patient, all for which we have fought and labored is lost. Personal touch and personal interest between patient and physician must be maintained else medicine will cease to be either an art or a science and will become a trade supervised and contaminated by the touch of politics. Let us emblazon on our banner this motto: "Each for all and all for scientific medicine—the sick and afflicted."

After-thought: I note, with pleasure, that a wise and just district judge has quashed the indictment held against the American Medical Association, the Medical Society of the District of Columbia and twenty-one individual doctors. All the readers of this journal are familiar with the case. Of course medicine is not a trade, but it is a profession—one of the highest type. But unless we get together and hang together it will become a trade. State medicine, if adopted, can but result in this. And these groupings and hospitalization associations are but the entering wedges that will most surely result in the disruption and degradation of the best and greatest organization ever set up for the promulgation of scientific medicine and the benefit of suffering humanity.

Again I say, let us emblazon on our banner this motto: "Each for all and all for scientific medicine and the sick and afflicted."

—G. S. B.

BOOK REVIEWS

PERSONAL AND COMMUNITY HEALTH. By C. E. Turner, A.M., Sc., D., Dr. P. H., Professor of Biology and Public Health in Massachusetts Institute of Technology. Cloth. Price, $3.00. Pp. 652, with 127 illustrations and four color plates. Published by C. V. Mosby Company, St. Louis, 1939.

The chief purpose of this book is to provide health instruction simply yet comprehensively for the student of the university level. Because young people nowadays face new health problems and need more knowledge to meet health responsibilities in the home and in the community, this book is planned to give the essential instruction. It is appropriate for students of public health, medicine, dentistry, and engineering. It is a valuable book for teachers, nurses, dental hygienists and even public school groups.

The divisions of personal health—nutrition, digestion, circulation and so through the various functioning systems of the body—constitute a course in physiology. The second part deals with the problems of disease control, especially the three great plagues—tuberculosis, syphilis and the common cold. Other community health problems such as waste, water supply, maternal care, group hygiene and disinfection are presented in textbook form. This new edition, the fifth, is up-to-date, and accepted by schools and universities all over the country as a practicable and understandable course of instruction.

THE INFANT AND CHILD IN HEALTH AND DISEASE. By John Zahorsky, A.B., M.D., F.A.C.P., Professor of Pediatrics and Director of the Department of Pediatrics, St. Louis University School of Medicine, and Elizabeth Noyes, R.N. Cloth. $3.00. Pp. 496, with 140 illustrations and 7 color plates. Published by C. V. Mosby Company, St. Louis.

The authors deal with their subject from the nursing angle, thus providing a textbook that is of prime value to the nurse. Because pediatric nursing has undergone great changes with the advance in preventive medicine, new procedures employed in the care and therapy of children are necessary. The first part of the book presents the normal child, whose nutrition and normal growth require scientific service. Next, the symptoms of illness and the diseases of childhood are discussed with special emphasis on psychology and nursing in the home. In order that an understanding of the patient as a whole, as a part of its background and environment, may be obtained, the nurse is taught that the affectiveness of her manipulation must come from constant training. She must continue to study and read while seeking understanding through intimate contacts in the nursery.

Methods of procedure are discussed in explicit step-by-step manner. To many mothers this book would be welcome in the care of infants and sick children, and would no doubt make them intelligent aides to the physician.

PROCTOLOGY FOR THE GENERAL PRACTITIONER. By Frederick C. Smith, M. D., Mc., F. A. P. S., Proctologist to St. Luke's and Children's Hospital, Philadelphia, Pa., pp. 390, with 142 illustrations. Cloth. Price $4.50 Published by F. A. Davis Co., Philadelphia.

The general practitioner has lately awakened to the fact that in proctology here is a field that has been neglected, and for these physicians who are convinced that rectal examinations are necessary for correct diagnosis, the author prepared this book on anorectal diseases to meet his needs. Dr. Smith guides the physician in making a thorough examination, discusses how to gather diagnostic data, analyzes the patient's complaints and symptoms from a viewpoint of their causative pathology. He goes into detail on the modern injection treatment for hemorrhoids, the most widely used treatments for pruritis ani, enemas, diarrheas and other common conditions. Surgical procedures which may be performed by the general practitioner are described in clear fashion.

HEADACHE AND HEAD PAINS. By Walton Forest Dutton, M.D., Director of Medical Research Laboratories, Amarillo, Texas. Cloth. Price $4.50. Pp. 315, illustrated. Published by F. A. Davis Co., Philadelphia.

The headache is just a headache to most people, and millions of dollars yearly go into misleading, unwarranted and dangerous remedies, for, as Dr. Dutton sees it, headache is a symptom, and the longer the cause exists the more difficult will be the cure. "Unless the cause is ascertained and eliminated, the affection, with its consequences, pain, helplessness, destitution, and despair of early aid, is the source of false, or even superstitious practices. It may wreck one physically and mentally and result in habituation to narcotics, insanity, or suicide." From here the author progresses through 200 affections causing headache and head pains, giving their diagnostic and pathologic features and treatment. He dwells at length on constipation and enemas. All through the text are proved prescriptions with exact dosage and precise instructions on the treatment furnished. Furthermore, a therapeutic index affords a guide to reference.

This book is just off the press and will serve the practitioner trying to solve a few chronic "headaches"; it will also aid him in educating the laity against following the unscrupulous advertiser of nostrums and cure-alls.

VARICOSE VEINS. By Alton Ochsner, B.A., M.D., F.A.C.S., Professor of Surgery, School of Medicine, Tulane University of Louisiana, New Orleans, and Howard Mahorner, B.A., M.D., M.S., F.A.C.S., Assistant Professor of Surgery, School of Medicine, Tulane University of Louisiana, New Orleans. Pp. 147, fifty illustrations and two color plates. Cloth. Price, $3.00. Published by C. V. Mosby Company, St. Louis, Mo.

For the surgeon who recognizes the importance of a rational therapy for varicosities, this book affords a brief, impartial, and readable digest of the latest information available on the subject. In the foreword, written by Dr. Rudolph Matas, universally acclaimed father of vascular surgery, credit is given the authors for being among "the first to determine by experimental studies the histologic reactions of the veins to the various sclerogenic solutions." With the simple injection method they combine the high ligation and transection, or partial excision, of the internal saphenous vein and all of its tributaries at the saphenous opening, following with the injection of the sclerogenic agent in the distal segment. With this combination a lower per cent of recurrences is obtained than in either method alone.

Clinical studies, history, pathology and physiology are presented clearly and briefly evaluated.

CARDIOVASCULAR DISEASES. By David Scherf, M. D., and Linn J. Boyd, M. D., F. A. C. P. Associate Professor of Medicine, respectively, New York Medical College, Flower and Fifth Avenue Hospitals. Cloth. Price, $6.25. Published by C. V. Mosby Company, St. Louis, Mo.

Aiming at conciseness rather than detailed and complicated discussions, these two heart specialists have collaborated to produce an up-to-date text on the common, practical and usually neglected problems confronting the practitioner. Nothing has been included which has not been tested by the authors. It is highly practicable because the information is given for direct use with the unaided senses of the practitioner, who has little recourse to complicated methods and apparatus. However, there are so many important observations on many fine points, even expert cardiologists will find the book stimulating. The contents are presented in easily readable form, ready for quick reference and comprehensive study.

FUNCTIONAL DISORDERS OF THE FOOT. By Frank D. Dickson, M. D., F. A. C. S., and Rex L. Dively, A. B., M. D., F. A. C. S., both Orthopedic Surgeons St. Luke's, Kansas City General and Wheatley Hospitals Kansas City, Mo. Cloth. Price $5.00. Pp. 305, 202 illustrations. Published by J. B. Lippincott Company, Philadelphia, 1939.

Two practical orthopedic surgeons got together for this book, bent on giving the general practitioner a correct evaluation of disabling foot conditions. Few medical men have given foot disorders the attention they deserve, but have left the laity to take their painful feet to non-medical groups. This book covers every phase of the subject, in an elementary and intensely practical way. It is agreed that the greater number of foot disorders can be corrected by proper footwear, so the evolution and mechanics of the foot, foot imbalance, foot ailments and common disorders are discussed and the proper procedure given for treatment. The book should not only be of inestimable value to the practicing physician, but also to the laity, for it is the kind of book which can do much toward increasing efficiency and decreasing foot trouble.

PRACTICE OF ALLERGY. By Warren T. Vaughan, M. D., Richmond, Va. Pp. 1038, with 338 illustrations. Cloth. Price, $11.50. Published by C. V. Mosby Company, St. Louis.

There is perhaps no more complete coverage of the subject of allergy from the doctor's standpoint, to be found than this presentation. It would convince the student that a thorough knowledge of several other fields is necessary before he can hope to become an allergist. Experts in the fields of botany, mycology, diet, bacteriology, dermatology, gastroenterology, pediatrics and otolaryngology contributed much to the completeness of the book, by giving the general information needed in the study of allergy. Then the author elaborates on his own methods of testing and treatment, and incorporates those recommended by others. Food, inhalant, bacterial, fungal, drug and contact allergy are all treated separately and fully. A final section discusses the seven divisions of allergic diseases in general.

For the physician or student in quest of more replete knowledge in a field which has an ever-increasing amount of research this book offers the most modern technical treatise we know of.

MONETTE PORTRAIT

The trustees and directors of the Mississippi Department of Archives and History have voted to accept a portrait of Dr. John W. Monette to be placed in the Mississippi Hall of Fame.

For years they have been gathering portraits for this hall, which is hung with more than a hundred men and women who have played conspicuous parts in the history of the state and nation.

Dr. Monette is being honored by the Department of Archives and History because of:

I. His scientific, epidemiological and clinical contribution to the control of yellow fever. When he began his investigations of that disease, the prevailing opinion, for which Dr. Benjamin Rush was largely responsible, was that yellow fever was due to fermentation of organic matter, it originated locally, it was not introduced from without, and all measures, such as quarantine, to protect against yellow fever were useless.

After Dr. Monette's papers had been published, it was proved and in time universally accepted that yellow fever was due to some agent from without, and not the result of local fermentations and putrefactions; it was spread from community to community by travel and commerce and the danger was in proportion to the volume of traffic; and quarantine was the method to use to prevent its spread.

When the policy of control, based on these conclusions, came to be applied, yellow fever in the United States and Canada declined, being absent for intervals of years and always absent in many parts of the country hitherto infected. As quarantine became more intelligent, it practically disappeared from the United States and Canada, before the application of the mosquito theory, which in turn rid the Central American countries of the disease and promised its entire eradication. Hence, it is agreed that Dr. Monette's name belongs to the group of men, such as Gorgas, Reed, Carroll and Lazear, who are to be credited with conquering yellow fever.

II. His authorship of a standard history of the Mississippi Valley.

III. His studies of flood control of the Mississippi River.

IV. His work as a practitioner of medicine, a lecturer and teacher and essayist.

PRESIDENT-ELECT OF MISSISSIPPI STATE DENTAL ASSOCIATION

DR. FAYETTE WILLIAMS
CORINTH, MISS.

Born, Savannah, Tenn., Sept. 25, 1904.

Graduated from Central High, Savannah, 1922.

Finished at University of Tennessee School of Dentistry, 1926.

Postgraduate work, Northwestern University, Chicago, 1930.

For the past four and a half years he has been doing private study in orthodontia with Dr. Oren A. Oliver, of Nashville.

His activities in organized dentistry include:

Past president of Mississippi State Board of Dental Examiners, Chairman of Committee on Creating District Dental Societies, Chairman of Committee on Rewriting Constitution and By-Laws of Mississippi State Dental Association.

Dr. J. A. Evans of Bay St. Louis is president of the Mississippi Dental Association, and Dr. George P. Evans of Jackson is secretary-treasurer.

MISSISSIPPI MEDICAL ROSTER INCOMPLETE

The roster of officers and time of meeting for the county societies is incomplete. Each county secretary is urged to check the set-up and send in corrections or information to complete this roster. The names of the presidents are especially important, as well as the dates of meeting.

Don't forget to talk to your candidates for governor and the state legislature as to how they stand on hospital legislation. Now is the time to know.

MISSISSIPPI VALLEY MEDICAL SOCIETY

The fifth annual meeting of the Mississippi Valley Medical Society will be held in the new $500,000 Municipal Auditorium at Burlington, Iowa, September 27, 28, 29. There will be 32 clinicians on the program who will give 50 lectures, clinical demonstrations, etc.

Every ethical physician is cordially invited to attend. Detailed program may be secured from Harold Swanberg, M.D., Secretary M.V.-M.S,. 209-224, W. C. U. Building, Qunicy, Ill.

DEATH OF S. M. A. COUNCILOR LAMENTED

The death of Dr. Hill, a member of the Council of the Southern Medical Association, representing the State of Tennessee, is widely lamented. His death occurred June 21. He was in 1934 Chairman of the Section on Pediatrics of the Southern Medical Association. He had been a regular attendant at the annual meetings for many years and was one of the finest friends the Association ever had. Mrs. Hill is a past-president of the Woman's Auxiliary of the Southern Medical Association. The Hills live at 1671 Dandridge Pike, Knoxville, Tennessee.

MY DOCTOR

In these days when so many derogatory remarks are being directed against the doctor acting as an "individual" in the maintenance of the mental and physical health of the public, it is a comforting privilege to read the homely contribution of Bradley[1] on answers to the common questions of parents whose children are suffering from convulsive disorders. This vague and dreaded syndrome may be of no serious significance but in many instances it may be the result of a condition which will be present throughout life. In either event, it is only the individual family physician who can succeed in maintaining the mental stability of the parents.

To such questions as: "Has my child epilepsy? Will my child outgrow his fits? Is this condition inherited? Will it harm other children to see my child having a fit?"—no casually interested panel doctor, government social worker, or compulsory health insurance administrator can give answers that will be reassuring to the mother and father. Even in the scientific investigation of convulsive disorders, the cut and dried routine must always be carried out in a hopeful spirit that is impossible under a regimented form of medical practice, which, because of the limitations imposed upon it, does not allow for the treating of the child patient and his parents and close relatives who, if not properly approached psychologically, will eventually suffer from the strain of mental stress and anguish.

Our proponents of regimented medicine have unfortunately disregarded "the art of medicine." They view medicine only in the light of scientific accomplishments—its mastery of the epidemic diseases, its exalted advances in surgery. But the individual case of diphtheria, the individual case of ruptured appendix, constitute an individual problem for the patient and his kin which any form of regimented medicine does not take into account. Any psychiatrists have proved that the establishment of a healthy mental status is extremely important in attaining a cure.

More artcles like Bradley's may awaken us to the urgent need for preserving our "art" in medicine. We admit that it is something intangible but we insist that it is a vital necessity for the practice of medicine in the interest of the general mental and physical well-being of the population of our country.

—New York State Medical Journal

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[1] Bradley, C.: Rhode Island Med. J. 31:135 (1938).

A RESOLUTION

Adopted by the Executive Committee of the Mississippi State Pharmaceutical Association on the death of Mr. T. H. Spencer, June 26. 1939.

WHEREAS, Our beloved T. H. Spencer, possessing all the virtues, beauties and glories of a Christian gentlemen and such sweetness of spirit together with loyalty and devotion to his profession that he had filled and thrilled the hearts of his fellow druggists, and,

WHEREAS, The Mississippi State Pharmaceutical Association, in convention assembled in the City of Meridian on June 21, 1939, did favor the organization by electing Mr. Spencer as president, and,

WHEREAS, The Lord in His Divine Power and Wisdom saw fit on June 26, 1939, to remove from us our friend, co-laborer and president, Mr. T. H. Spencer, and,

WHEREAS, The Mississippi State Pharmaceutical Association suffered a great loss in his passing,

Therefore, be it resolved, that we, the Executive Committee, do hereby express our sincere regrets and extend to his loved ones our deepest sympathy and trust that as time goes on, we may all spend many happy hours living in memory of our dear departed president. Be it further resolved that in keeping with Chapter One, Article 9, of the By-Laws, we do hereby declare Mr. H. H. Jones, of Gulfport the President with Mr. N. S. Fox, of Louisville, First Vice-President of the Mississippi State Pharmaceutical Association.

Executive Committee:
D. B. Sharron, Chairman,
C. H. Hays
S. J. McDuffie.

THE TULANE UNIVERSITY OF LOUISIANA SCHOOL OF MEDICINE

CLINICS:

During the week of October 23 to 28, 1939, will be given daily. Registration $5.00

For program and other information, write

Director of Graduate Medical Studies

1430 Tulane Avenue New Orleans, La.

From Our President

To The Members of The Mississippi State Medical Association:

Reports coming in from different parts of the state indicate that our hospital program is receiving favorable comment.

Where these resolutions have been presented to and explained to the legislative candidates the response has been satisfactory, and it now looks like if this campaign of enlightment can be carried on through the time between now and the second Democratic primary next month, the desired legislation is insured of enactment next year.

As the first primary probably will have passed by the time this reaches you, and the number of candidates for the second primary will have been greatly reduced, thereby making the contacting of them a comparatively easy matter, will you please help your president to contact these candidates in the "runoff"?

After the first primary every candidate for the legislature will be mailed a copy of our resolutions, so when you approach the candidate he will be informed and be able to discuss these measures with you.

When the legislature meets next year we will present data sufficient to convince them of the need of our contention, but as it is easier to reform a man before marriage than after, so it is easier to get an alignment of a candidate of the legislature than it is to secure his pledge after election.

We will have next January:

I. Motion pictures, showing the deplorable condition of the hospitals.
II. Data giving the comparative appropriations for these and other hospitals of similar character.
III. Results of a survey, setting forth:
    a. Inadequacy of the present set-up.
    b. Patients denied admission because of insufficient support fund.
    c. Patients now served.
    d. Patients that should be served.
    e. What a properly trained staff of doctors and nurses could do for patients that the average doctor can not handle.
IV. Effort will be shown that what our hospitals need is **efficiency rather than cheapness of operation.**

"Organized medicine needs every doctor and every doctor needs organized medicine."

J. P. WALL, President, Mississippi State Medical Association.

COAHOMA COUNTY MEDICAL SOCIETY
and
CLARKSDALE HOSPITAL MEDICAL STAFF

MINUTES

Due to the absence of the president, Dr. D. H. Griffin, Dr. J. L. Levy presided.

The meeting was called to order in the dining room of the Alcazar Hotel immediately after lunch on August 9, 1939. The minutes of the previous meeting were approved as read. Dr. E. L. Wilkins, as chairman of the Relations Committee, gave a report on the meeting that the Relations Committee had with the Clarksdale Hospital Board. Dr. L. H. Brevard read a paper on "Amebic Dysentery," which was discussed by Drs. Warfield, Hughes, Wilkins and Levy.

There being no further business the meeting adjourned.

August 9. Julius L. Levy, M.D.
Secretary and Treasurer.

COAST COUNTIES MEDICAL SOCIETY

At the regular monthly meeting of the Coast Counties Medical Society in Biloxi on August 2, Dr. John Musser of New Orleans was guest speaker and gave the society an essay on pneumonia.

He said that forty-two per cent of the deaths are due to pneumonia in mid-adult life to sixty-four years of age, and among occupations, the unskilled worker has the highest mortality. He described the causes and different classifications of pneumonia and the diagnosis. He told of the effectiveness of the serum in types 1, 5, and 7. "Serum is practically worthless after the fifth day and it should be given early in large doses of 80,000 units. It is best given very slowly and warm. A one to ten in saline should be dropped in the eye to determine sensitiveness to serum." He also discussed the value of oxygen which is indicated in a rapid pulse, cyanosis, rapid respiration and delirium, particularly in delirium. He also discussed sulfapyridine and said it should be given in conjunction with serum, continuing it for four days and reducing to half after temperature reaches normal.

* * * *

Dr. George Wallace, Biloxi, spent three weeks visiting New York hospitals and the World's Fair.

Dr. O'Mara of Biloxi is at Saluda, N. C., for three weeks.

Drs. Joe Kuljis, James F. Thompson and Wayne C. Pitman have made application for membership into this society and will be located in Biloxi, Moss Point, and Bay St. Louis.

August 4. D. L. Hollis, M. D., Sec'y.

ISSAQUENA - SHARKEY - WARREN COUNTIES MEDICAL SOCIETY

Regular monthly meeting Elks, August 8, 7:00 p. m.

PROGRAM

1. "Some Uses of Sulfapyridin"—Dr. Alfred J. Messina. Discussion by Drs. P. Robert and P. S. Herring.

2. "Endometrosis"—Dr. Guy P. Sanderson. Discussion by Drs. Jack Birchett and John Dent.

The secretary wishes to thank Dr. Lawrence Clark and Dr. Edley Jones and the others who were kind enough to do the secretary's work while he was away in conference with Hitler and Mussolini.

The executives of the society have set aside September as the month for a program to be given by the out-of-town physicians. The president, Dr. Walter Johnston, will be glad to have suggestions.

Alston Callahan, Sec.-Treas.

SUNFLOWER COUNTY

Dr. G. C. Carlson, formerly of Merigold, is now practicing in Moorhead, where he has taken the office of Dr. U. S. Wasson.

Dr. R. H. Bostwick of Indianola, has entered public health work. He is at this time taking his training at the Coahoma County Health Department, Clarksdale.

Mrs. R. C. Smith of Drew, who has been quite ill, is much better.

Dr. Raymond F. Mayer from Pomaria, South Carolina, has entered public health work in Mississippi. Dr. and Mrs. Mayer are now in Indianola where Dr. Mayer is taking his public health training at the Sunflower County Health Department.

C. R. Gillespie, M.D.

Mississippi State Medical Association

Organized in 1867 **Next Meeting: May, 1940, Jackson.**

OFFICERS

President—J. Percy Wall, Jackson
President-Elect—W. H. Anderson, Booneville
Vice-Presidents—Hugh Johnston, Vicksburg
R. B. Austin, Forest
B. T. Robinson, New Augusta

Secretary—T. M. Dye, Clarksdale
Editor—Lawrence W. Long, Jackson
Historian—Leon S. Lippincott, Vicksburg
Speaker—J. Rice Williams, Houston
Treasurer—E. Leroy Wilkins, Clarksdale

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First District—J. W. Lucas, Moorhead
Second District—L. L. Minor, Rt. 4, Memphis, Tenn.
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Seventh District—J. P. Culpepper, Hattiesburg
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Ninth District—D. J. Williams, Gulfport

COMMITTEES

Program:

Surgery—Edwin Benoist, Natchez
Hygiene and Public Health—E. W. Noblin, Sr., Jackson
Medicine—Ira Seale, Holly Springs
E. E. N. and T.—E Staton, Columbus

Anti-Barbiturate:

J. M. Acker, Aberdeen
J. Gould Gardner, Columbia
L. S. Lippincott, Vicksburg
B. J. Marshall, Whitfield
E. LeRoy Wilkins, Clarksdale

Public Policy and Legislation:

Felix J. Underwood, Jackson
Henry Boswell, Sanatorium
W. H. Anderson, Booneville

Charity Hospitals:

J. C. Culley, Oxford
W. W. Crawford, Hattiesburg
John Darrington, Yazoo City
B. B. Martin, Vicksburg
H. R. Shands, Jackson

COMPONENT SOCIETIES

County Society	President	Secretary-Editor	Time of Meeting
Adams	James C. Rice, Natchez	Fred Geisenberger, Natchez	Third Tues. 7:30 p. m.
Amite	W. S. Stewart, Osyka	H. A. Butler, Liberty	Second Thur. 7:30 p. m.
Central Medical	Frank Hagaman, Jackson	H. C. Ricks, Jackson	First Tue. 7:30 p. m, Omit July and Aug.
Claiborne		G. W. Acker, Port Gibson	
Clarksdale and Six	W. H. Williams, Tunica	E. Leroy Wilkins, Clarksdale	Fth. Wed. March and Sec. Wed. No
Clarke-Wayne	W. P. Gray, Waynesboro	Albert Hand, Shubuta	
Coahoma	D. H. Griffin, Clarksdale	Julius L. Levy, Clarksdale	
Coast Counties	F. O. Schmidt, Ocean Springs	D. L. Hollis, Biloxi	
Delta Medical	G. Y. Gillespie, Greenwood	F. M. Acree, Greenville	Sec. Wed. Apr. and Oct. 2 p. m.
DeSoto	Henry M. Wadsworth, Hernando	L. L. Minor, Memphis, Rt. 4	
East Mississippi	C. H. Harrison, Philadelphia	Guy T. Vise, Meridian	
Franklin	C A. Everett, Bude	L. Costley, Meadville	
Issa-Shar-Warren	Walter E. Johnston, Vicksburg	Alston Callahan, Vicksburg	
Jefferson	C. R. Senter, Byhalia	Herbert Phillips, Holly Springs	Second Thursday
Marshall		W. T. Harper, Fayette	
Newton	W. L. Henton, Decatur	Dudley Stennis, Newton	
North Mississippi	C M. Speck, New Albany	A. H. Little, Oxford	Third Wed., Jan. Apr. Jul. Oct.
Northeast Miss.	J. W. Lipscomb, Columbus	A J. Stacy, Tupelo	Sec. Tue., Mch. Jun. Sep. Dec.
Pike	E M. Givens, McComb	T. Paul Haney, Jr., McComb	First Thursday
Pontotoc	J. H. Windham, Ecru	E. B. Burns, Pontotoc	
South Mississippi		Van C. Temple, Hattieburg	
Sunflower		H. B. Cottrell, Indianola	
Tallahatchie	G. Lacy Biles, Sumner	J. E. Powell, Charleston	
Tate	W D. Smith, Senatobia	J. S. Eason, Coldwater	Second Wednesday
Cop.-Law.-Lin.-Wal.	R. S. Savage, Brookhaven	R. B. Zeller, Hazlehurst	Sec. Tue. Mar. Apr. Jun. Dec.
Webster	E T. Arnold, Bellefontaine	H. K. Curry, Eupora	
Wilkinson	C. E. Catchings, Woodville	E. M. Butler, Centerville	
Winona District		S. B. Caruthers, Grenada	

Interpreting Medical Literature

STAFF OF REVIEW

Dermatology—James G. Thompson, Jackson.

Eye, Ear, Nose and Throat—Alston Callahan, Vicksburg.

Obstetrics and Gynecology—J. W. Lucas, Greenwood.

Orthopedics—Thomas H. Blake, Jackson.

Pathology and Clinical Pathology—John C. Henthorne, Jackson.

Pediatrics—Harvey F. Garrison, Jackson.

Public Health—Felix J. Underwood, Jackson.

Radiology and Roentgenology—Karl O. Stingily, Meridian.

Surgery—John Culley, Oxford.

Urology—Temple Ainsworth, Jackson.

Discussion and comments are invited.

DERMATOLOGY

Ordinarily the treatment of pellagra is carried out by correcting the patient's diet and supplying the necessary vitamins. A series of forty-one patients was treated in Kentucky by Drs. Kooser and M. A. Blankenhorn in which the diet was not changed and only nicotinic acid was used in the treatment. Twenty-eight of the forty-one treated were completely cured and remained well during the period of observation, twelve were partially improved, and one who was inadequately treated remained unchanged.

The writers concluded that pellagra could be cured with nicotinic acid, but that relapses would occur unless the diet was corrected.

PELLAGRA OF KENTUCKY MOUNTAIN FOLK: Ambulatory Treatment with Nicotinic Acid, A. M. A. Journal, Vol. 112, No. 25, P. 2581, J. H. Kooser, and M. A. Blankenhorn.

Sixteen cases of herpes zoster were treated with vitamin B-1 (thiamin chloride) by Drs. Rattner and Roll of Chicago. Thiamin chloride was chosen because of its antineuritis properties. The conclusion was that the treatment was no more effective than the less expensive methods.

Journal A. M. A., Vol. 112, No. 25, P. 2585. H. Rattner, and H. C. Roll.

It is very unusual for a newspaper to report on any medical subject, and report it correctly, but in a very recent issue of the NEW YORK TIMES an accurate account of a five-day treatment for syphilis was described. The work is being done at Mount Sinai Hospital in New York City, and in all probability the series will be reported in the medical journals as soon as enough cases have been treated to make up a series, with follow-up work.

The treatment consists roughly of dissolving neo-arsphenamine in five per cent glucose solution in normal saline, 0.1 gram to fifty cubic centimeters of solution. This is administered as a continuous drip intravenously. The ordinary sized patient is given about 4.1 grams of neo-arsphenamine in five days. The drip is set up so that the neo-arsphenamine solution can be stopped as desired and the drip continued as glucose in normal saline.

There is nothing new about the idea of attempting to saturate completely luetic patients with an antispirochaeticide, and make one treatment all that the patient would require, but to date it has not been without serious hazards to the patient. We shall watch this attempt with great interest, and give further reports on it.

* * *

The treatment of urticaria which has been more or less a hit and miss proposition up to the present time appears to be taking on a scientific aspect in that it has been found that there is a change in the potassium content of the blood serum in allergic individuals. The average amount of potassium per 100 cc. of blood serum in normal people being 19.5 mg., and the elevation of it to an average of 23.4 in persons with acute and chronic urticaria led the writers to believe that the treatment of urticaria and certain other allergic states could be approached from this angle. The premise of their studies was that the increased potassium content of the serum indicated a depletion of tissue cells of their normal potassium content and, furthermore, that such factors as depress the level of the serum potassium accomplish this effect by driving potassium back into the cells, thereby helping to re-establish the electrolyte equilibrium. Among the agents employed were insulin and dextrose, administered in conjunction with potassium salts.

This article is well worth studying since the precept seems to be logical and the results gratifying, and since the treatment of urticaria at the present time is not all that is to be desired.

CHANGES IN SERUM POTASSIUM IN CERTAIN ALLERGIC STATES, Howard A. Rusk, T. E.

Weichselbaum, Ph.D., Michael Somogyi, Ph.D., Journal A. M. A., Vol. 112, No. 23, P. 2395.

— J. G. T.

PATHOLOGY

Accessory Adrenal Cortical Tissue, Nelson, A. A. Arch. Path., 27:995-965, (June), 1939.—

A report is given of 19 cases of accessory adrenal cortical tissue. Of these eleven occurred near the testes, five near the kidneys, two on the spermatic cords and one in the broad ligament. None of these accessory nodules was tumor-like and none produced endocrine dysfunction. The literature is reviewed and reports of three cases of tumor of accessory adrenal tissue are listed. These tumors occurred in females and produced masculinizing hormones.

Acute Postoperative Enterocolitis, A. Penner, and A. I. Berheim, Arch. Path., 27:-966-985 (June) 1939.—

Since a case report by Finney in 1899 many reports have been presented of diphtheria-like pseudomembranous ulcerations of the intestine, usually the ileum, colon, or both, found postmortem in postoperative cases. In most of the cases, operations had been done on the abdomen, but in some instances operations were performed in other regions such as the brain. In some, but not all, of the cases bloody diarrhea was observed prior to death. No pathogenic organisms as a cause of this lesion have been demonstrated. Where expression of opinion as to the cause of the condition has appeared, it is to the effect that preoperative weakness, anemia, or shock are responsible.

In a survey of the postmorten records of Mt. Sinai Hospital for the past 10 years, 40 cases of pseudodiphtheritic enteritis, colitis, or enterocolitis were found.

Histologically the early lesions are characterized by marked dilatation of the capillaries and venules, particularly in the submucosa. Later the process extends to the mucosa and edema with focal hemorrhages when poor cellular response supervenes. Necrosis beginning at the tips of the intestinal villi appears with cellular debris emeshed in fibrin. Hyaline thrombi may appear in some of the smaller vessels.

The collected cases represented a wide variety of clinical conditions of which shock represented the only phenomenon common to all.

Shock, according to the authors, who have carefully studied the literature, causes a primary vasoconstriction of the arterioles which results in increased capillary permeability and anoxemia and acidosis of tissue. There is a loss of plasma proteins into the tissue spaces. Prolonged anoxemia of the capillary wall may result in further increase of diapedesis, hemorrhages, and loss of plasma protein to the tissues. Capillary thrombi occur. It is but a short step from the pathologic picture produced by shock to that of necrosis described in cases of post-operative enterocolitis. The latter picture may be partially complicated by the presence of bacteria in the intestinal lumen.

Veneral Lymphogranuloma, R. D'Aunoy, and von Haam, E. Arch. Path., 27:1032-1082, (June) 1939.—

In a comprehensive review of the literature that gives eight pages of bibliography, the authors present a concise report. Venereal bubo was described by Wallace in 1833, and the disease was well described by Desruelles in 1844 and by Huguier in 1848. The latter's name for the disease (esthiomene) is still in use. Nelaton was the first to consider the peculiar lesions a manifestation of a new and unknown disease. Early descriptions of the venereal bubo were given in the United States by Platt, Winslow and Jones, Armstrong, and Klotz. The inguinal and rectal manifestations of lymphogranuloma were usually ascribed to tuberculosis or syphilis. In 1913 Durand, Nicolas, and Favre published reports of their exhaustive studies on inguinal adenitis, and stressed the small herpetiform penile lesion as portal of entry of the casual agent. They provided the name "lymphogranuloma inguinale." The National Conference on Nomenclature of Disease has adopted the name "venereal lymphogranuloma." Of tremendous importance to the development of more comprehensive understanding of the disease was the discovery by Walter Frei in 1925 of a specific cutaneous reaction resulting from the infection, now known as the Frei test. By the use of his test Frei was able to demonstrate that "climatic bubo," "venereal lymphogranuloma," and the "genito-anorectal syndrome" were manifestations of the same disease. In 1931 Hellerstrom and Wassen succeeded in producing lesions in experimental animals (monkeys) by intracerebral inoculation.

Venereal lymphogranuloma is more prevalent in tropical, subtropical, and temperate climates, but is found in all parts of the world. It is endemic in the Americas, Asia, Australia, and along the African coast. The disease appears to be increasing alarmingly in incidence, and this increase can only partly be ascribed to better diagnostic procedures. The incidence is much higher in negroes than in whites.

Owing to the difference of distribution of lymphatics from the genitals of the male and female, lymphogranuloma was originally thought to be restricted to the male sex. Only when it was proved that esthiomene of the vulva and inflammatory stricture of the rectum were manifestations of venereal lymphogranuloma was it realized that the disease occurred in women although with different clinical and pathologic pictures.

The commonest primary lesion is herpes-like and has usually healed by the time the case is seen by a physician. The primary lesion may rarely be nodular and infiltrating or may be deeply ulcerated. Primary lesions within the urethra are supposedly more common in the female. Extragenital primary lesions have been reported.

Inguinal bubo is the principal manifestation of the acute stage of venereal lymphogranuloma in the male. The inguinal nodes frequently suppurate, break down, and form multiple draining sinuses.

Esthiomene or elephantiasis of the pudenda is a manifestation of the acute stage of the disease in affected females. The affected parts are edematous, the mucous membranes are leathery and dry, and there may be superficial tender chronic ulcers. Elephantiasis of the scrotum may occur in males.

Inflammatory stricture of the rectum is much more common in the female but does occur in the male. The prognosis of this manifestation of venereal lymphogranuloma is poor.

More or less severe constitutional symptoms may be present in the acute stages of the disease.

Remote lesions have been described, but evaluation of relationship to venereal lymphogranuloma is difficult. Polyarthritis, sepsis, cutaneous lesions, stomatitis, and lesions of the eye have been reported as caused by the virus of lymphogranuloma.

Venereal lymphogranuloma is caused by a filterable virus. The diagnosis can be best established by the Frei test.

Comments are made regarding treatment.

Favorable action on the primary lesion and in the acute cases by acetylsalicylic acid was observed. Aspirations of lymph nodes and surgical excisions have been approved. Treatment of rectal stricture is palliative.

Comment: This excellent and extensive article was probably submitted for publication prior to the recent enthusiastic reports on the use of sulfanilamide in the treatment of venereal lymphogranuloma.

J. C. H.

PEDIATRICS

Secondary anemias of infants and children are very prevalent in this country. This subject demands the attention of not only the pediatricians but of all physicians who are practicing medicine in any form. The prevention of anemia in infants and children is quite important. The recognition for the need of the proper construction of the child's diet from birth is of the greatest importance. Nutritional anemias are recognized daily in the practice of pediatrics. The following abstract is considered to be very timely:

Secondary Anemias of Infancy, Robert L. Cowles, Wisconsin Medical Journal, 38:202, (March) 1939.—

"Anemias of infancy are generally divided into two classes: (1) the hypoplastic or deficiency anemias in which there is a disorder of development of the blood; and (2) the hemolytic or erythroclastic type in which conditions are present which cause its destruction.

"The anemias in the first group are the ones the writer has chosen to consider as the secondary anemias of infancy. While the mortality in this group is low the morbidity is great.

"An anemia in the first week or even during the first two months of life is usually due to hemorrhage or to one of the hemolytic diseases. The secondary type develops in the two- to eight-month age group. The reason for this lies in the fact that the infant stores up enough iron in the liver to last until this time. Studies have shown that two-thirds of the iron present in the full-term baby has been stored during the last three months of prenatal life. This will account for the fact that all premature babies and practically all twins have a deficiency in stored iron. Tying the cord before pulsation has ceased may materially decrease the blood volume. There may also be a deficiency of stored iron due to iron deficiency in the mother.

"Following the birth of the child, this stored iron is gradually used up because, irrespective of whether the baby is on breast, cows' or goats' milk, it is on a diet deficient in iron. Unless one realizes that, in addition to supplying fundamental food elements and the necessary vitamin factors, one must give iron in some form, anemias are bound to develop . . . The need for giving egg yolk, spinach, etc., has been given great prominence. The amount of iron obtained from these foods varies greatly and, while the early institution of solid feeding is commendable, it is not sufficient. Iron in some form must be given. When an infant has developed anemia, it is practically impossible to correct it by feeding alone. This is especially true when conditions exist which predispose to deficiency. Twins, premature infants, and those who have suffered from some infection are especially prone to develop anemia.

"The therapy of secondary anemia of the newborn should be largely prophylactic and should be considered even in the antenatal state. Blood examination for deficiencies during pregnancy should be routine, and any lowered blood picture should be rebuilt.

"The anemia of the premature should receive as much care and its prevention must be as rigid a part of infant care as is the maintenance of body heat, provision for adequate nutrition, and prevention of infection.

"The prevention and cure of nutritional anemia offers the most promise of success because it is simply due to iron starvation. Supplying iron in sufficient doses, small when one is using it as a prophylactic and larger when the anemia is developed, will correct the condition. In this latter class a careful examination of the child to correct any vitamin deficiency, or deficiency in internal secretion as well as the removal of infectious processes, should be carried out.

"Routine administration of iron should begin at the third month. This most frequently used iron preparation is the water soluble iron and ammonium citrate, given in doses of from 4 to 8 grains a day. This can be prescribed in a solution containing 4 grains to the teaspoonful. In 'bottle babies' it is added to the feeding. In breast-fed babies it is given with the water between feedings. When anemia has already developed, the dose is doubled or even tripled."

"Institution of early solid feeding, cereal at about four months, and vegetable purees at 4½ months, is desired. Cereals with added vitamins and with added iron and copper are beneficial as are all other sanitary and building agents—fresh air, sunshine, quartz light, etc.

"Proper introduction of vitamins is essential. The giving of orange juice at one month and cod-liver oil at six weeks should be routine."

— H. F. G.

PUBLIC HEALTH

Production of Antipneumococcic Serum, B. Scott Fritz, V.M.D., American Journal of Public Health and the Nation's Health, V. 29, P. 224, March, 1939.—

In reviewing this article it is my opinion that the author is impressing the clinician with the care that must be taken in the production of antipneumococcic rabbit serum, a comparatively new product in the field of serum therapy. The results obtained from the use of immune rabbit serum in the treatment of pneumococcic pneumonias in the Hospital of the Rockefeller Institute for Medical Research, New York, and Long Island College of Medicine indicate that the serum is an effective adjunct in the treatment of pneumococcic pneumonia. The author of the article gives credit to those from the Hospital of the Rockefeller Institute for the pioneer work that has been done with antipneumococcic rabbit serum. The report on the production, processing and standardization of antipneumococcic rabbit serum is informative and of great value to those interested in the many phases of this work. However, for the benefit of the clinicians who are interested but do not have access to the original paper nor time to read the same, a summary of the original article follows.

An essential part in the economical and successful production of immune sera is the management of a rabbit colony. Those responsible for production should arrange for their supply of rabbits from reliable sources. Purchases should be restricted to rabbits of desired weights, ages and of healthy stock. The rabbits should be individually segregated in a unit specially planned for the purpose of keeping the animals comfortable and free from draughts, or excessive heat and cold. Fresh water should be supplied daily, also a sufficient amount of good quality food to maintain the body weight of the rabbit in production.

A satisfactory bacterial suspension is the prerequisite to an immune serum of high titer. This is first accomplished by retaining the virulence of the type specific pneumococci. This is done by growing the organisms in a favorable medium for an optimum period of time to prevent autolysis.

Of course it is obvious that accurate records of all procedures are kept, for without them the scheme of production and results are of no value.

Rabbits respond to careful handling. Bleeding technic is obtained through practice and each laboratory will bear in mind the reduction of mortality from bleeding and develop its own individual method.

Those responsible for production may vary the immunization schedule according to the plan of immunization that is conducive to the maintenance of the animal in a satisfactory state of health and over the longest period of time. Less intense schedules of immunization with longer intervals of rest apparently produce sera of higher unitage and lower mortality. However, the 1,000 rabbits considered in this report indicate that the bleeding mortality is regularly higher following rest periods.

The mortality following bleeding and immunization will be materially reduced if less than 50 cc. of blood is taken from the rabbit of 4 to 5 pounds with no rest period.

The cost factor has not been discussed in connection with the production of type specific antipneumococcic rabbit serum. However, it is believed that the cost will be equal to, if not greater per cc., than antipneumococcic horse serum.

— F. J. U.

STUDIES OF THE ACUTE DIARRHEAL DISEASES PARASITOLOGICAL OBSERVATIONS, by Hardy and Mack Spector, Public Health Reports, V. 54, June 23, 1939, No. 25.—

A study of the water-borne outbreak of acute diarrheal disease among Chicago firemen in 1934 showed the incidence of Endamoeba histolytica infestation to be 42.4 per cent in mild cases and 62.1 per cent in severe cases, as compared with 15.5 per cent for healthy controls. These observations and the occurrence of a few frank cases of amebic dysentery led to the tentative opinion that E. histolytica probably had an etiological role in this particular outbreak. Consequently, in a recent investigation of endemic diarrhea diseases in northern New Mexico and Arizona parallel bacteriological and protozoological studies were planned.

This study was limited to cases of acute diarrheal disease, their household contacts and representative samples of different racial groups. The population of the region includes Indians (Pueblo and Navajo), "Spanish-Americans," and "Anglo-Americans."

From several communities, duplicate stool specimens were collected—a small amount of the feces in preservative for bacteriological analysis and the remainder of the stool in a carton for parasitological study. In the parasitological laboratory abservations, direct microscopic examinations of the saline and iodine preparations of feces were made.

Laboratory observations revealed many interesting facts. The infestation rate for E. histolytica in the total (1,284) non-Indian group with no diarrheal disease was 14.8 per cent. The Indians without diarrheal disease (1,268) all showed a high rate of infestation, averaging 25.9 per cent. The proportion of positives among those examined when ill with an acute diarrheal disease was materially less (Indian 7.4 per cent and non-Indian 6.8 per cent) than in those free of this disorder. E. histolytica was identified much less frequently in children under 5 years of age than in other age groups. The infestation rates for healthy Indian and non-Indian females were above those of the males. Endamoeba coli showed an incidence of infestation in 45 per cent of the Indians. The flagellates Giardia lamblia and Chilomastix mesnili were slightly more common in the non-Indian group than in the Indian group. Except for Hymenolepis nana, the ova of helminths were encountered rarely. The total absence of hookworm infestation and the almost complete absence of Ascarides is probably due to the dryness of the soil of the area.

The spread of E. histolytica is dependent upon relatively direct dissemination of human excrement. Man may become infected with E. coli when he consumes material contaminated by sewage. Hymenolepis nana is transmitted from man to man without an intermediate host. Consequently, the high incidence of the parasites among the Indians and "Spanish-Americans" is undoubtedly due to the defects of their communal, home and personal sanitary practices.

The question of immunity to E. histolytica is brought forward by these findings. E. histolytica is accepted as an ameba pathogenic for man; however, evidence points to the fact that different strains of this parasite vary in virulence. In this survey, the complete absence of complaint of even minor intestinal disorder, and the lower incidence of "carriers" in persons with diarrheal disorders as compared with healthy individuals is of interest. The rarity of frank cases of clinical amebic dysentery is striking. These observations differ with those in the Chicago amebic dysentery epidemic, in which the case incidence among exposed individuals reached 11.6 per cent. The findings from this survey made in northern New Mexico and Arizona indicate further the need for additional information concerning the pathogenicity of various strains of E. histolytica, the question of resistance of the host under various conditions of environment and exposure, the degree of exposure necessary to produce clinical symptoms, and other considerations involving the host-parasite relationship.

— H. C. R.

COAHOMA COUNTY MEDICAL SOCIETY
AND
CLARKSDALE HOSPITAL MEDICAL STAFF

MINUTES:

The meeting was called to order in the dining room of the Alcazar Hotel immediately after lunch July 12, 1939. The minutes of the previous meeting were approved as read. Dr. Guy Post of the Coahoma County Health Department then stated that he was approached by a detail man of the Winthrop Chemical Company with the co-operation of the doctors of the society. This was discussed fully by all the members present. Then Dr. J. A. Slack made a motion that we would not enter into this preventive work. Dr. S. D. Robinson seconded the motion.

Dr. E. L. Wilkins asked the society to have his name withdrawn from the Fee Schedule List. A motion was made by Dr. Wm. Warfield and seconded by Dr. T. G. Hughes to withdraw Dr. Wilkins name.

Dr. J. L. Levy then made a motion that the resolutions which were read before the society be adopted with an amendment offered by Dr. Brandon and seconded by Dr. Wilkins which was all who are now doing surgery in the Clarksdale Hospital would be considered as members of the Clarksdale Staff but anyone seeking to do surgery in the hospital shall be admitted to the surgical staff if his qualifications are satisfactory to a committee of three members of the surgical staff.

Dr. L. H. Brevard offered to present a paper at our next meeting in August, his alternate being Dr. W. H. Brandon. There being no further business the meeting adjourned.

July 12, 1939 Julius L. Levy, M.D.
Clarksdale. Secretary and Treasurer.

DESOTO COUNTY

Dr. A. L. Emerson of Hernando, the Nestor of the profession in this county, entertained the members of the local medical society at a supper given at the Garrett's Cafe at 7:30 P.M. Monday, July 3. The cuisine was splendid and the occasion was a pleasant one. The good doctor received the felicitations of each member.

While some Europeans are coming to think of the aeroplane as a menace and a curse, the folks of more fortunate continents have turned the curse to a blessing. For instance in the remote interior of Australia, The Aerial Medical Service has become a hopeful actuality. In America the aeroplane is becoming increasingly necessary. Soon the flying doctor will be in evidence the world over.

As a distinct vocation, dentistry is first alluded to by the great historian Herodotus (500 B.C.). There are evidences that at an earlier date the Egyptians and Hindus attempted to replace lost teeth by attaching wood or ivory substitutes to adjacent sound teeth by means of wires or threads.

The campaign in this state for the prevention and cure of syphilis is well worth while. This disease is seen in every part of the globe and the affects are sometime horrible. However, it can be cured if treatment is continued long enough.

The Black Death of the fourteenth century (bubonic plague with pulmonary infection) was the most terrible epidemic of historic times. Originating in eastern Asia, it passed through Asia and northern Africa to Europe, which it ravaged by sections from 1346 to 1354. The loss of human life from it in Europe is said to have been twenty-five millions. Petrarch, who witnessed the plague at Florence, declared that posterity would regard the description of all its horrors as fables.

The DeSoto County Medical Society meets the first Monday of January, April, July and October.

The North Mississippi Medical Society held an interesting meeting recently in New Albany. The essayists were from Nashville, Dr. C. M. Speck is president and Dr. A. H. Little is secretary.

We are sorry to see an account of the death of Dr. U. S. Wasson of Moorhead. I cannot recall attending any medical gathering that Wasson was not there. A good true sincere man, we shall miss him.

Rt. 4, Memphis, Tenn. L. L. Minor,
July 18, 1939. County Editor.

ISSAQUENA-SHARKEY-WARREN COUNTIES MEDICAL SOCIETY

Regular monthly meeting was held with the Elks Club, July 11th, 6:00 P.M. No supper.

PROGRAM

1. "Chronic Appendicitis"—Dr. Leon S. Lippincott, (discussion was opened by Drs. A. Street and B. B. Martin, Jr.)
2. "Hydronephrosis"—Dr. Nathan B. Lewis, (discussion to be opened by Drs. W. H. Parsons and S. W. Johnston).

WEEKLY EDUCATIONAL RADIO PROGRAM

Presented by
The Issaquena-Sharkey-Warren Counties
Medical Society, Third Quarter, 1939.
Every Wednesday from 1:00 to 1:15 P.M.

July 5. The Development of Medicine: Hippocrates, Galen, Paracelsus.—Dr. E. B. Stribling.

July 12. Thomas Sydenham and His Contribution to Medicine.—Dr. Geo. M. Street.

July 19. James Lind, M.D.—His Contribution to Medicine.—Dr. R. A. Street, Jr.

July 26. Edward Jenner, M.D., F.R.S. His Contribution to Medicine.—Dr. J. A. K. Birchett.

Aug. 2 Louis Pasteur—His Contribution to Medicine.—Dr. L. J. Clark.

Aug. 9. Robert Koch, M.D., F.R.S. His Contribution to Medicine.—Dr. A. Callahan.

Aug. 16. Lord Lister, O.M., F.R.S.—His Contribution to Medicine.—Dr. John Dent.

Aug. 23. Walter Reed, M.D., L.L.D.—His Contribution to Medicine.—Dr. J. M. Few.

Aug. 30. Edward Livingston Trudea, M.D.—His Contribution to Medicine. — Dr. G. W. Gaines.

Sept. 6. Drs. Wells and Long—Their Contribution to Medicine and Dentistry.—Dr. Frank Schlosser.

Sept. 13. Charles Mayo, M.D.—His Contribution to Medicine.—Dr. H. B. Goodman.

Sept. 20. Austin Flint, M.D.—His Contribution to Medicine.—Dr. J. L. Hall.

Sept. 27. William C. Gorgas, M.D., D.S.C—His Contribution to Medicine.—Dr. P. S. Herring.

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"The great lesson of biography is to show what man can be and do at his best. A noble life put fairly on record acts like an inspiration to others."—Samuel Smiles.

CHEVALIER JACKSON—An autobiography.

This is one of the outstanding autobiographies of modern times. Jackson tells with modesty and humility of the story of his life from early childhood, a period marked by cruelty such as characterized the early life of Kipling, until he reached his present preeminence in surgery. Devoting his life to the cause of making bronchoscopy safe throughout the world, he has rendered outstanding service to humanity. As early as four, he turned to creative work, having keen aptitude for woodwork and painting. In school, he helped to earn his way by decorating china and glass. Colored reproductions of some of his exquisite paintings are to be found throughout the book. He was also an excellent cook. This book will provide its readers with many inspiring hours.

LILLIAN WALD, NEIGHBOR AND CRUSADER — A biography by R. L. Duffus.

It is timely to read how the efforts of one individual reached out from a neighborhood to a city, a nation, and a world. Miss Wald and another young nurse in 1893 went down to New York's teeming and poverty-stricken East Side to do what they could for the sick and helpless in the tenements. Out of this adventure came the Henry Street Settlement, the Henry Street Nursing Service—pioneer in public health nursing throughout the world—and a career which made Lillian D. Wald one of the best known and best beloved women of her time. There is tonic for defeatism and tired liberalism in the story of so valiant a crusader for justice, for tolerance, for peace.

THE HORSE AND BUGGY DOCTOR — An autobiography by Arthur E. Hertzler.

Here is a dramatic, interesting story of the trials, tribulations and successes of a country practitioner. Written with a touch of humor, it tells of the days when the country doctor's equipment included lanterns, spades, and a revolver; of his rides through the mud, battles with snow, and the troubles encountered because of common superstitions, carelessness and intolerance; also of operation which often as not had to be performed on the kitchen table. If one wants to visualize the real background of medicine in this country, he should not miss reading this book.

MADAME CURIE — A biography, by Eva Curie

A reverent tribute to a great scientist and a magnificant woman. Twice the recipient of the Nobel prize for her work on radium and radioactivity, "Madame Curie," wrote Einstein, "is, of all celebrated beings, the only one whom fame has not corrupted." This intimate biography, written by her daughter, reveals Madame Curie in all her simplicity and in all her grandeur.

AN AMERICAN DOCTOR'S ODYSSEY — Adventures in 45 countries, by Victor Heiser.

A record of a colorful career, written with a sense of humor. It is a narrative of toil in far corners of the globe, of labors in many lands, to prevent the ravages of disease and establish the principles of preventive medicine.

PIONEERS OF PUBLIC HEALTH — The story of some benefactors of the human race, by M. E. M. Walker.

Sydenham, Chadwick, Shattuck, Lister, Manson, Laveran, Reed, Biggs, Gorgas and Leishman appear before us in the biographical sketches that make up this book. There are others besides—scientists whose names are inscribed on the walls of the London School of Hygiene and Tropical Medicine.

"FOUR OR MORE" FAMILIES

The rural areas continue to be the high birth rate sections of the United States, according to Dr. O. E. Baker of the Bureau of Agricultural Economics. In 1930, the census showed that 63 per cent of the nation's children were included in 25 per cent of its families, which had four or more children. The present birth rate indicates that the "four or more" families are still those in the rural areas.

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PRESIDENT ENTERTAINS WITH LUNCHEON

Mrs. Hugh Johnston entertained with a luncheon at the Robert E. Lee Hotel, Friday, July 7, having as her guests the president of the Mississippi State Medical Association, Dr. Wall; the president-elect of the State Auxiliary, Mrs. E. C. Parker, Gulfport; Mrs. W .K. Stowers, secretary of the Auxiliary, and the following councilors: Mrs. Paul Brumby, Lexington, Fourth District; Mrs. R. E. Shands, New Albany, Second District; Mrs. B. B. Martin, Jr., Vicksburg, Fifth District; Mrs. Lucien Gaudet, Natchez, Eighth District; Mrs. R. C. Ely, Moss Point, Ninth District.

After lunch the group met in the Director's Room to discuss plans for the year's work. Dr. Wall gave a very interesting talk on objectives of this year's work. Mrs. Parker discussed plans for the vital statistics records and distributed the information blanks to each councilor.

ENDORSEMENT FROM MRS. CLEVELAND

I have asked to be allowed the space to express to the Mississippi State Medical Association my appreciation of their recent act in Gulfport in the election of my neighbor, Dr. W. H. Anderson, of Booneville, as our president-elect.

As a member of the Woman's Auxiliary of our great state organization, I want to express our loyalty to Dr. Anderson and our faith in his ability to lead us, as we have always been led, along the highway of professional integrity and courtesy that our society has hitherto known and traveled.

We know that there are many doctors in the association who possess qualities of leadership; and we have the fullest respect for them and confidence in their ability. But we must always uphold the hands of him whom the members of the society, following their democratic ideas, selected as their choice. Dr. Anderson is peculiarly fitted for his high position to which he has been elected, by his wide acquaintance and association with our other doctors, by his long experience in the practice of medicine and surgery, and by his having had many years' service as the editor-in-chief of our medical journal, The Mississippi Doctor.

The Woman's Auxiliary to the Mississippi State Medical Association will not be lacking in their loyalty to our new president-elect.

—Mrs. W. H. Cleveland, Tupelo.

THE CITADEL DOES HARM

The moving picture film, The Citadel, based on Dr. A. J. Cronin's "best seller" book of the same name, may have won American honors for motion picture production, but in the opinion of the British Medical Journal, "The Citadel film, apart from its absurdities, gives a false impression of British medicine and British doctors, which in the long run will do harm unless the public regards it merely as entertainment."

TUBERCULOSIS ABSTRACT

Extroversion may be defined as the turning of an interest outward toward some object. Introversion is the contemplation of one's own thoughts and feelings. Tuberculous patients can hardly be rigidly classified into these two groups but in each individual is the tendency to lean toward one or the other and when an individual develops tuberculosis that tendency becomes more manifest. The neurasthenic manifestations encountered in tuberculous patients are not specific but are frequently seen in individuals with any protracted illness. The physician dealing with tuberculous patients must adjust and adapt them to their illness as close to the point of contentment as is possible, instilling within them the hope and certainty that they will soon recover and return to their former usefulness to society. The patient confined to a bed-rest regimen for a number of months must be made to believe in the need for such treatment.

The extrovert is characteristically carefree and unconcerned about his condition. The problem that confronts the physician is to gain the confidence of this patient and to explain the need for prolonged treatment if he is to make satisfactory progress. Occasionally one will encounter a patient who does not adequately appreciate the necessity of intensive treatment. Here one must be frankly outspoken and attempt to show what may happen if he fails to heed the physicians' advice. The patient must be made to realize that he is a sick person in spite of his apparent well-being. He must be convinced of the fact that tuberculosis, when discovered early, may be easily controlled, whereas, when the disease is of a more advanced type, it is more difficult to obtain a satisfactory result. In order to obtain the full co-operation of the patient, it is essential that he be advised concerning the development and progress of the disease through the medium of education. The physician in charge must make an indelible impression on his patient.

It is with the introvert that we must use the greatest of discretion. He has kept his troubles to himself, for his best defense has been to keep his troubles hidden. It is this type of individual that should be prevailed upon to share his innermost thoughts with the physician. He must not be allowed to become depressed, for a happy patient with a happy, healthy state of mind is a most desirable asset in fighting a chronic disease such as tuberculosis. On the other hand, the practice of minimizing a patient's lesion, such as diagnosing an infiltrate as a "bronchitis" so as to avoid any "embarrassment" to the patient, is to be condemned. Too often patients are seen who state that their physician, several months prior to admission, told them that they had a "little bronchitis" or a "tiny spot on the lung" and advised only a couple of weeks' rest in bed. However, in a certain few select cases it may be perfectly justifiable to minimize somewhat the extent of the process.

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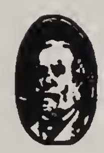

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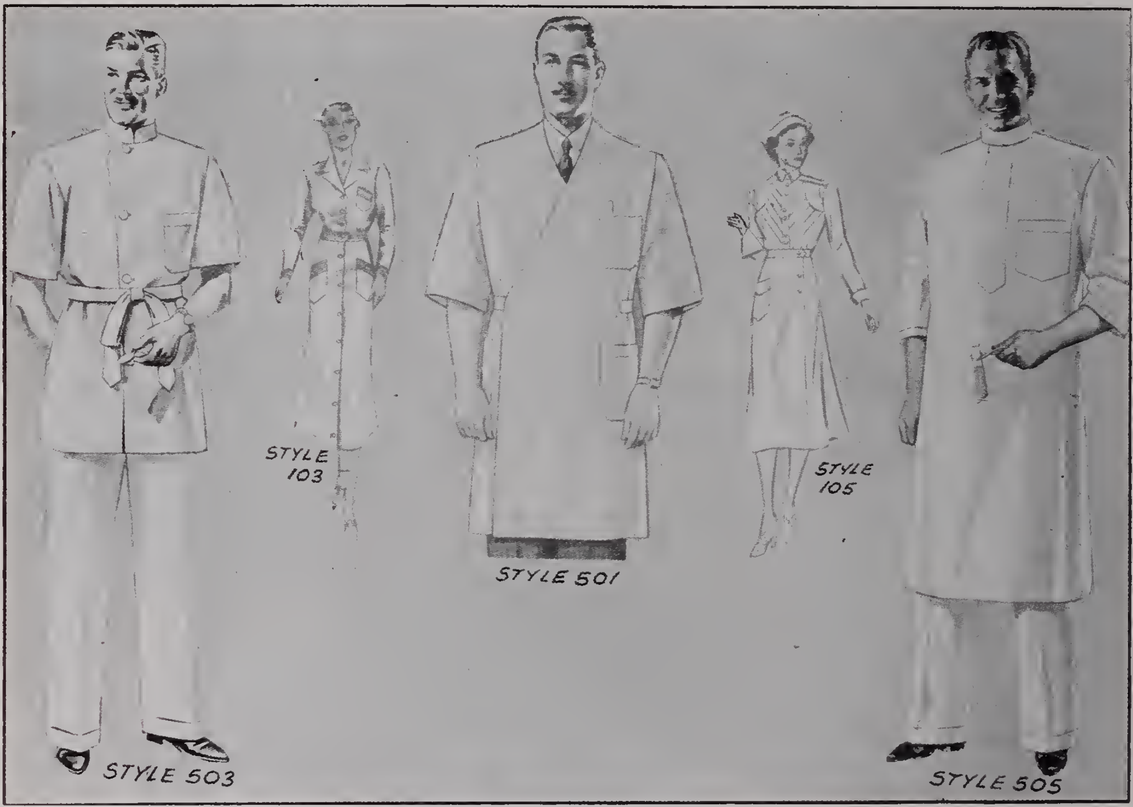
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VOL. 17 BOONEVILLE, MISSISSIPPI, SEPTEMBER, 1939 NO. 4

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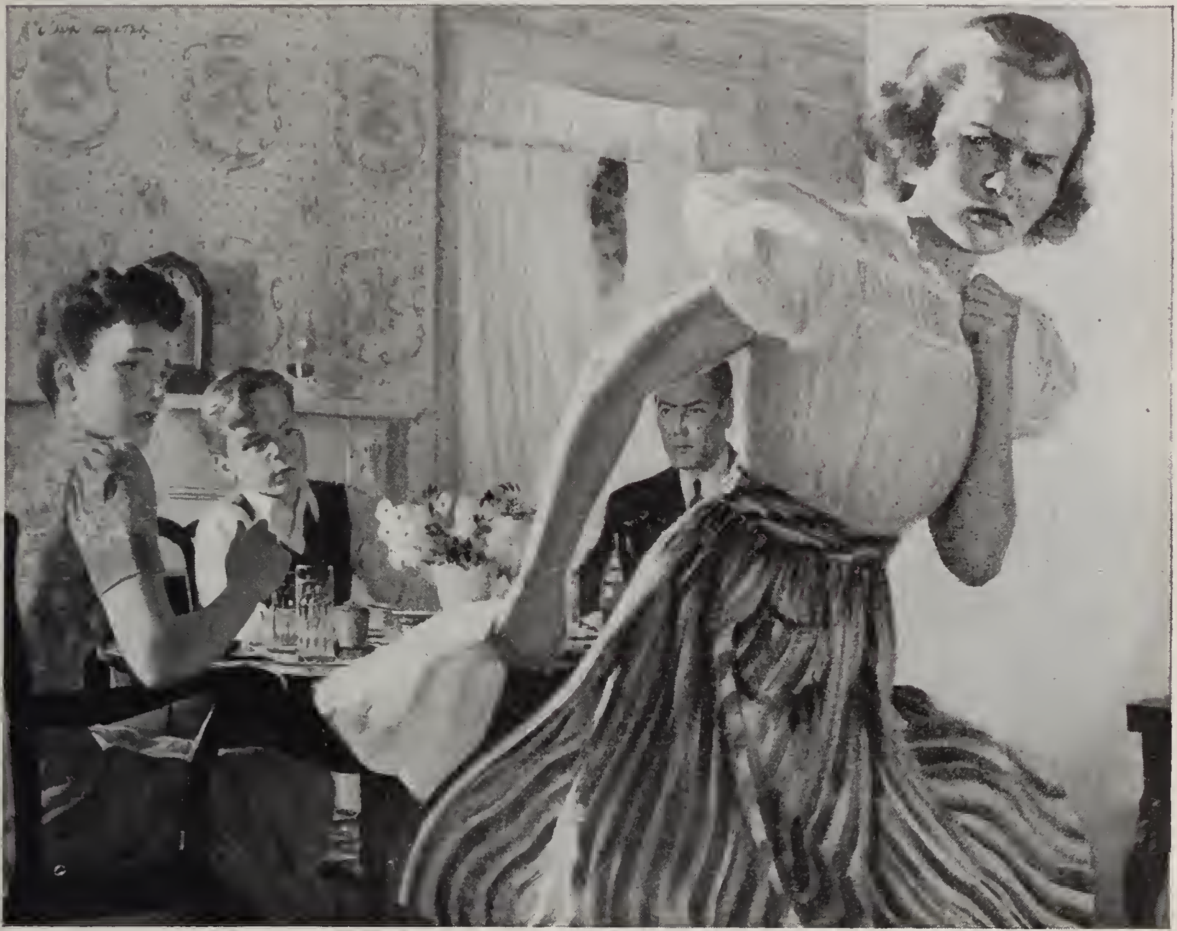

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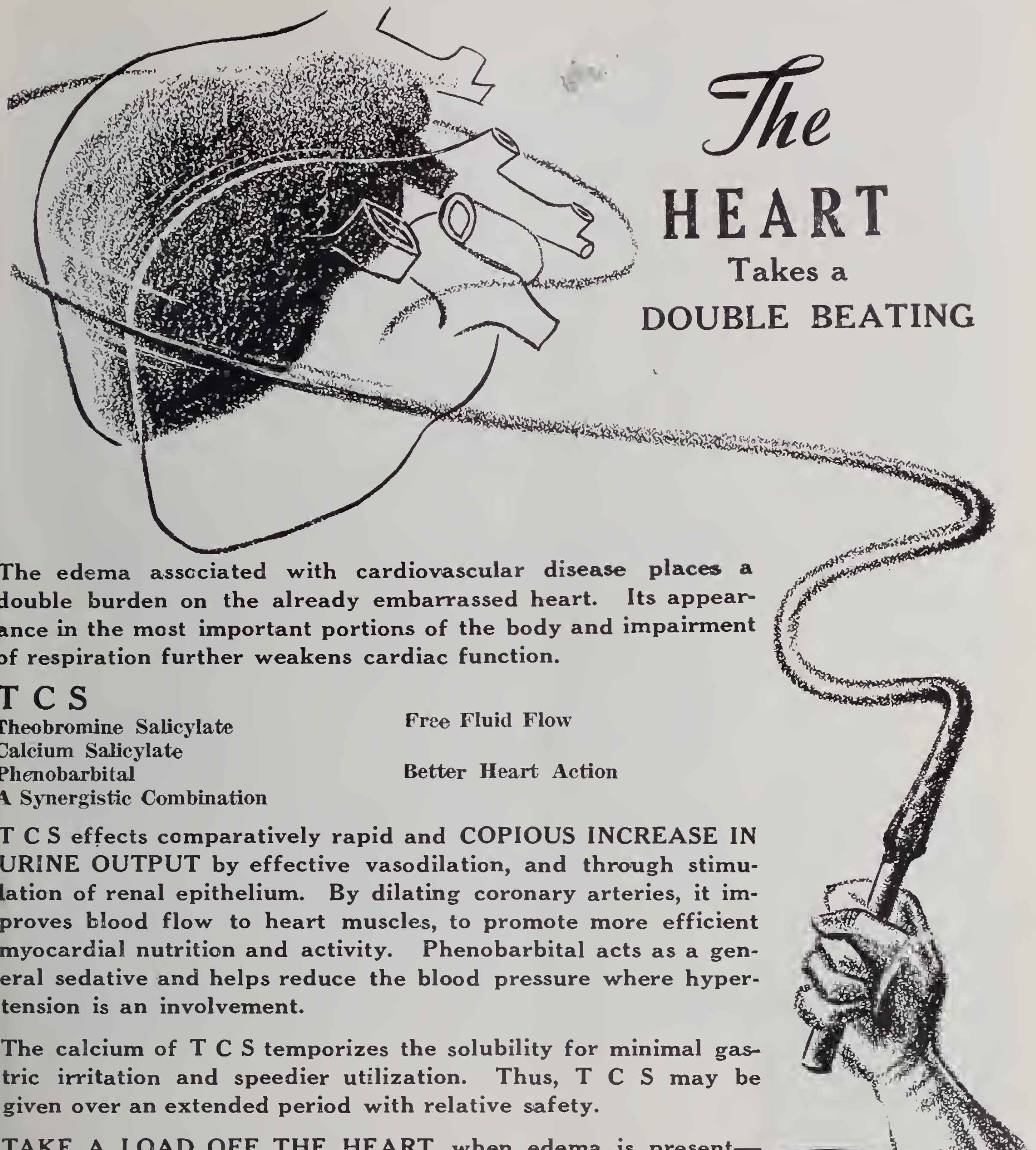

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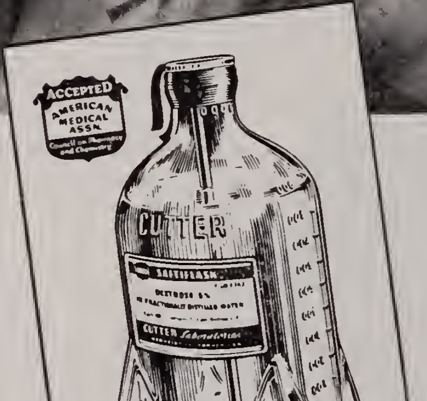

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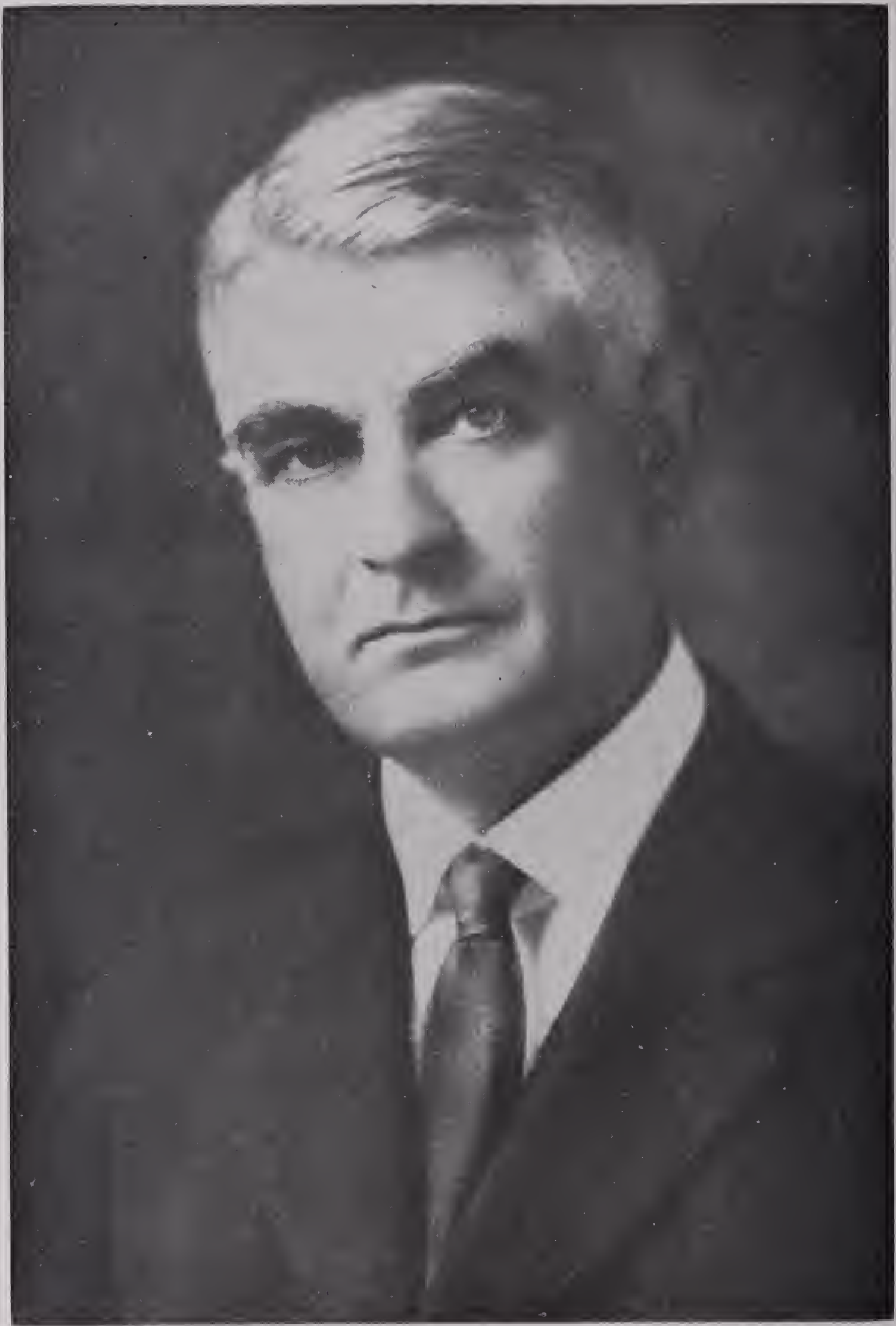

Dr. William James Mayo

1861-1939

(A tribute to Dr. W. J. Mayo appeared in the August issue of the MISSISSIPPI DOCTOR.)

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(A tribute to Dr. C. H. Mayo appeared in the April issue of the MISSISSIPPI DOCTOR.)

C

Puerperal Sepsis*

NORRIS W. VAUX, M.D.
Jefferson Medical College and Hospital,
Department of Oostetrics
PHILADELPHIA, PA.

AT THIS TIME I can conceive of no more important topic than puerperal infection, nor a more receptive and illustrious gathering of physicians to whom I could present and review this subject.

From our earliest medical writings down through the years; from Hippocrates, the Father of Medical Science, to the present day, puerperal infection has been more or less a completely misunderstood and complicated condition. The earlier writers naturally had almost a complete misconception of this condition, while to-day we are cognizant of certain factors which deal with sepsis. Although there have been lapses of many hundreds of years between the outstanding steps forward toward its eventual elucidation and eradication, definite progress has been made in the investigation of this baffling malady. From the earliest observations recorded, it is noted that the writers sensed the tendency of puerperal sepsis to be epidemic. At first it was thought this condition was attributable to a suppression of the lochial flow. The individuals suffering from this disease were considered by some of the earlier observers to be unclean and these were described as cases in which nature itself was unable to rid the person of the accumulated body poisons following childbirth. Some of the first traditions relative to its etiology came from the countries adjacent to the delta of the Nile. As civilization advanced, the quest for knowledge becoming more widespread, we find that the islands of the Aegean and Mediterranean seas were replete with efforts of the then scientific world, which called attention to the high maternal death rate of childbearing women. We may follow the trend of scientific investigation from these islands to Greece, where culture was at its height in the then known world. As the Roman Empire and its advancing cultures spread over the continent of Europe, very distinct and forward steps were made in cultural, artistic and medical sciences. Names of renowned physicians and investigators of the day were attached to many vague theories and ideas in relation to the etiology and cause of the devastating fever which attacked the childbearing women. Death following childbirth spread synchronously with the advancement of civilization and was definitely carried into new lands. With each advance, new ideas and new theories were propounded in our scientific learning. There are many names in ancient medical history which are closely associated in describing the many peculiar conditions surrounding the maternal deaths after childbirth. Epidemics of childbed fever broke out from time to time throughout the civilized world and in almost every instance it could be traced to various cities and countries where the commendable and Christian purpose of caring for the destitute was being carried out. Overcrowding of the sick often reached appalling proportions and where cleanliness was less important than godliness, we find the scourge more prominent.

It was not until the year 1652 that the attention of the scientific world became acutely focused on the appalling mortality of 20% of all childbearing mothers. A few years later, in 1660, an epidemic swept the Hotel Dieu in Paris, which caused the death of two-thirds of the women delivered in that institution. Our historians tell us that "between the years 1652 and 1862 approximately two hundred epidemics of puerpeural fever were recorded. Mauriceau of France, John Leake and Charles White of England, stand out so prominently in their writings and work with puerperal fever that their names must ever remain as the true pioneers in observation and efforts to combat this childbed fever.

In 1773 an epidemic of puerperal sepsis appeared in Europe and raged for three years with such frightful mortality that in Lombardy it is said not a single woman survived childbirth for over a period of a year, when the epidemic was at its height. These disclosures were of such appalling character that they rocked to their foundations, the principles and structures of medical science. Theories propounded by the men of the time as being the cause of these terrific epidemics included, obstructed lochia, corrupted milk, inflammation of the uterus, air contamination, over-crowding in hospital beds, distemper of the air, infected throats, epidemic dysentery and peculiar and unknown fevers which were supposed to be the etiological factors. Charles White of Manchester, England, an eminent physician of his time, in the year 1773 was the first to show a keen appreciation of the value of cleanliness which was not to have its scientific explanation for another century.

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During all these troublesome times more theories and many suggestions regarding this condition were given to the medical world. There were many controversies relative to the etiology of the disease but it was not until 1843 that there arose in New England a serious discussion in the Boston Society of Medical Improvement which caused the first glimmer of true reason to be directed towards the cause of puerperal fever. Oliver Wendell Holmes was aroused to such a height of passionate indignation that he penned his immortal essay, *"The Contagiousness of Puerperal Fever."* This was published in the year 1843. This essay built up a strong cause for the infectious nature of the disease and he clearly set forth in it conclusions which we know today as they were then, to be accurate in their concept but hazy and incomplete in their analysis. The publication of his essay aroused the medical profession and such illustrious men as Baudelocque of Europe and Hodge and Meigs of Philadelphia were vehement in their protests of his hypothesis. Apparently the cause of their displeasure appears in the conclusion of the essay which states "whatever indulgence may be granted to those who have heretofore been ignorant causes of so much misery, the time has come when the existence of a private pestilence in the sphere of a single physician should be looked upon, not as a misfortune, but a crime; and in the knowledge of such occurences the duties of the practitioner to his profession should give way to his paramount obligations to society."

Hodge wrote of the essay and the discussion "the result of the whole discussion will, I trust, serve not only to exalt your views of the value and dignity of our profession, but to divest your minds of the overpowering dread that you can ever become, especially to woman, under the extremely interesting circumstances of gestation and parturition, the minister of evil; that you can ever convey, in any possible manner, a horrible virus, so destructive in its effects, and so mysterious in its operations as that attributed to puerperal fever."

Holmes was the first one who, in answer to his critics, repeated some of his original essay, the sum and substance of which is "the disease known as puerperal fever is so far contagious as to be frequently carried from patient to patient by physicians and nurses." He presented evidence from time to time which he felt supported his original theory. There was, however, following this, heated discussions between the eminent medical men of the time which attracted particular attention. Many opinions differed with Holmes as we note from the then existing literature. Semmelweis, the immortal young Hungarian physician, we find, gave the world the first true etiological factor of puerperal fever and what is equally important, added to it the all important adjunct of prophylaxis. He showed that maternal mortality could be reduced if certain principles were observed in the management and care of the pregnant woman in her delivery and puerperal state. This young Hungarian was not admitted to the study of medicine until 1839 and the following year he received a degree in midwifery. In 1847 he took up his work in the first obstetrical clinic, at which time it is said that Holmes' essay was unknown to Semmelweis. Among many things which he outlined in this clinic as the cause of the spread of puerperal fever was the fact that it was of miasmatic origin, the result of fear, over-crowding, too much lactation, and many associated theoretical causes but particularly did he emphasize the fact that the patients developing puerperal fever were often close to each other in the wards. He also advanced the theory that those having long labors and too frequent vaginal examinations suffered the highest maternal death rate. It so happened that a tragedy in the loss of a dear and close friend of Semmelweis', through the accidental injury of a portion of his hand with a scalpel while doing an autopsy on a woman who had died of puerperal fever, caused him to come to his final conclusion that some material or substance was transmitted through the wound to Kolletschka's hand, which malady and whose findings in the body of his friend, were those of the woman dying of puerperal fever. He was the first to direct that materials from the autopsy room and dissecting room could be transmitted by the hands to the patient and he was the first to insist upon the cleansing of the hands before attendance on the delivery of a woman in labor. Since that time until the present day, there have been large numbers of eminent and intelligent men who have fostered and brought forward in the profession, ideas, teachings, and technique which have definitely guided us on the path towards the eradication and control of puerperal sepsis. Among these eminent physicians, Holmes and Semmelweis stand out as pioneers in our modern conception of the causes of infection of the obstetric mother. LaForte, Marion Simms, Thomas Emmet, James W. Simpson, Braxton-Hicks,and Crede, all added invaluable suggestions and changes in the care of the maternity patients both in the prenatal, intrapartum and postpartum states which have guided us in this day and generation to a more reasonable and intelligent method of handling women during childbirth. Although the maternal mortality is still beyond all bounds of reason, the faint spark of hope has been kindled in the possibility of a cure through preventability and prophylaxis. The goal is now visible in the offing and shall, we hope, in the very near future become a more positive condition than the clouded uncertainty of the past. At the present, however, only a few suggestions in my experience are at hand to pass on to this gathering. I could elaborate at length but to such scholars and students as those present, I need only to emphasize certain and what has been known to us as absolutely essential points in the prevention of this still present and ancient malady.

According to Arnold W. W. Lea, puerperal infection is the general term applied to all infectious conditions which arise from the entrance of organisms into wounds of the generative tract in connection with labor or the puerperium. It is essentially wound poisoning or wound infection and is strictly comparable to "surgical wound fever." In some instances it is limited to superficial or localized inflammatory lesions of some portion of the generative canal, but it may be attended with invasion of the lymphatics or vascular channels by organisms or their toxic products resulting in general blood infections or intoxications.

The lesions of puerperal infection depend upon many factors, among which the time of entry, the point of entry, the degree of injury present, the virulence of the bacteria. the defensive mechanism of the patient's body, and the method of treatment play a role.

Two main varieties are encountered—a local, well-defined and limited, mainly infection; and a diffuse, penetrating, advancing and systemic form, (septic type).

In the local type of infection, which may be due to colon bacilli or to pyogenic organisms of low virulence, bacterial growth is limited to the necrotic tissue (surface of decidua, membranes, and placental fragments remaining after abortion and labor) producing a putrid endometritis (and ulcers of cervix, vagina or vulva). The affected areas are covered by a soft, green-gray, foulsmelling coating. Beneath this a demarkation area composed of a dense leukocytic wall forms, and the necrotic tissue is eventually cast off, leaving a clean ulcer. Symptoms are mainly due to absorption of toxins.

The more severe and devastating infections are known as the septic type, dissemination rapidly taking place and the picture becoming one of overwhelming gravity through the blood channels. The onset is rapid, the invasion widespread.

According to DeLee, the following are the forms of puerperal infection most commonly met, being placed about in the order of their frequency; vulvitis and colpitis; endometritis, mild and malignant; retention intoxication (the sapraemia of Duncan from material pent up in the genitalia); parametritis; peritonitis, pelvic or general; true bacteraemia or septicaemia; metastatic bacteraemia or septicopyaemia; phlegmasia alba dolens; endocarditis; tetanus genitaliae; diphtheria genitaliae.

Practically every known pathogenic organism and hosts of nonpathogens have been found in cases of puerperal sepsis. The following is a list: streptococcus haemolytic and non-haemolytic; aerobic and anaerobic; staphylococcus, haemolytic and non-haemolytic; bacillus coli communis; gonococcus; bacillus aerogenes capsulatus; bacillus diphtheriae; numerous identified and unidentified bacilli and cocci many of them causing decomposition of dead tissue and gas formation. In any one case, two or more organisms may be found and while in the severe forms of sepsis it is usually possible to isolate one definite strain of streptococci which is the chief offender. In the less severe infectious the matter may remain in doubt. Lochial cultures may be obtained either directly from the uterine cavity, from the upper part of the vagina, or from just within the vulvar orifice. From the strictly bacteriological point of view there can be no question that material obtained uncontaminated from inside the uterus is the best.

All methods for obtaining true scientific data entail a good deal of manipulation and disturbance to the tissues of the pelvis and is not always unattended with danger of extending the inflammatory process. In fact, in our enthusiasm, it may be converting a local into a general infection. For that reason, it is better not to employ this method routinely, but to rely on more simple cultures obtained with a simple, sterile swab from just within the vaginal orifice, the external genitals being thoroughly cleansed beforehand and labia widely separated to avoid outside contamination. Even a pure culture is not absolutely positive evidence of pathogenicity, but is very strong and presumptive evidence. Blood culture gives by far the most reliable information as to the true causative agent, but even in fatal cases of puerperal sepsis, blood cultures may be persistently negative.

There seems to be fairly accurate evidence that the relative frequency of staphylococcal infections as compared with streptococcal is greater after abortion, especially self-induced criminal abortion and operative procedures, such as Caesarean section and craniotomy, than after normal full term delivery.

While exogenous infection in puerperal fever is of paramount importance and requires all possible care for its prevention, there remains a by-no-means negligible residue of cases in which it is difficult to trace the existence of infection introduced from without. This type of patient is illustrated by the woman who has had a normal, unassisted labor, perhaps without any internal examination during labor and yet in spite of no interference, develops a severe and perhaps fatal form of sepsis. Such cases are within the experience of most people who have carried on obstetric practice, and in the light of present day knowledge and teachings, the causes of puerpral fever are a constant source of amazement and anxiety. The accumulation of these experiences by all engaged in active obstetric practice has led irresistibly to the view that a certain proportion of cases are infected from within and not from without. There has been a certain amount of reluctance to endorse this view as anything like a frequent cause of sepsis by a section of obstetricians, particularly those engaged in teaching, for it is feared that the acceptance of so easy and only partially accepted theory might tend to a lessening of the rigidity of antiseptic and aseptic precautions in labor and a relaxation of care in the conduct of midwifery. But so long as the full emphasis is rightly laid upon the frequency and dangers of exogenous infections and methods of preventing it, there can be nothing but good arising from the investigations and subsequent teachings in establishing the nature, means, and prevention of autogenous infections.

It can therefore be observed that we are not laying all stress on endogenous infections, but we feel that occasionally they do occur and should receive their due consideration. Therefore, we feel that the exogenous infections should receive their due and important consideration.

It may be stated with some confidence that haemolytic streptococcus are very infrequent in the genital passages during pregnancy, being present in something under 5 per cent of all pregnant women. In the early days of the puerperium they are rather more frequent, being found in about 5 to 6 per cent of all puerperal women. If the observation of these cases showed that those women who were harboring haemolytic streptococcus in their genital passages before labor were particularly liable to suffer from puerperal fever, the hypothesis of endogenous infection would receive strong support; but this is not always the case. There is general agreement that the great majority of them pass through a perfectly normal puerperium, and that this is also true of a high proportion of these women from whose genital passages haemolytic streptococcic are isolated during the puerperium itself.

These findings clearly raise the question as to whether the haemolytic streptococci isolated under these conditions are streptococci pyogenes. The balance of evidence is strongly in favor of the view that they are not.

If we accept the view that infection is usually exogenous in origin, it is clearly of importance to determine its source.

Dora Colebrook (1935) found that in 13 per cent of cases a strain identical with the infecting strain was isolated either from a contact or from a patient or both.

We may conclude that, in a very high proportion of cases, the most probable source of uterine infection with streptococcus pyogenes during labor and the puerperium is from the throat or nose of some person in contact with the patient or from the throat or nose of the patient herself.

It is contended by some authorities that pregnancy, per se, predisposes to attacks of bacteria. It is known that there are definite changes in the liver and kidneys and animals are usually sensitive to infection during pregnancy. Therefore if the shock of labor is superimposed, which is really a surgical operation, it is often associated with the making of wounds, many of which are contused and occasionally bruising the peritoneum. These result in the lowering of the individual's resistance. Eclampsia and other toxemias, hemorrhages, acute infections, i. e., typhoid, pneumonia, and grippe; chronic infections, i. e., syphilis and tuberculosis, heart disease, alcoholism, anaemia, overwork, malnutrition, also hypofunction of the endocrine glands all play an important role. These factors in themselves are not causative of puerperal infections, but they are potent agents which predispose the individual with the above mentioned conditions to fall a victim to the ever ready organisms which are the real cause of the puerperal infections.

According to L. Colebrook, the etiology of puerperal infection is divided first, into those which are intimately associated in their origin with injury to the maternal tissues during the process of childbirth.

The bacterial infections which complicate recovery from these injuries vary very much in character. The haemolytic streptococcus is by no means always associated with such injuries, but when it is, the clinical picture becomes very much more alarming. Very many of these injuries are infected only by the less pathogenic microbes, which are commonly present about the vaginal orifices, the anaerobic and nonhaemolytic varieties of streptococcus, bacillus coli, and staphylococcus. These microbes find conditions peculiarly favorable to them in injured and devitalized tissues, the blood supply of which is interfered with. These types of infection are usually associated with trauma.

The second group of puerperal infections comprise cases in which childbirth has been accompanied by little or no trauma, and the ensuing puerperal fever is attributable to one incident, namely the introduction of the haemolyticus streptococcus in the genital tract of the mother. This last statement, if absolutely true, is of the utmost importance because it leads inevitably to the conclusion that most of these infections of the haemolytic streptococcus which account for so many maternal illnesses and deaths could be prevented if we were setting about their prevention in the right manner.

Streptococci are subdivided according to the way in which they grow. Some are haemolytic, others have no action in blood, while others will grow in the absence of oxygen. Of the haemolytic strains only one group (Group A) is capable of causing severe infection in human beings, and this group is further subdivided by intricate serologic means into some twenty-five distinct types. Around half of these known types have been found to play a causative part in puerperal infections.

Hare (1934) found that strains of haemolytic streptococcus isolated from afebrile cases were readily killed by human wholeblood, while strains from febrile cases were not. Finally, Lancefield and Hare (1935) examined a large number of strains by the precipitin test with the following results. Of 46 strains of haemolytic streptococcus isolated from women suffering from puerperal fexer,. 45 fell into Lancefield's Group A (streptococcus pyogenes). Of 18 strains isolated after labor from women with mild puerperal infection, some were streptococcus pyogenes. Of 65 strains isolated during an afebrile puerperium, one was streptococcus pyogenes. Of 13 strains isolated before labor, none was streptococcus pyogenes.

Summarizing the causes of puerperal infection, I would like to mention the statement of the late John Osborne Polak, who said that there were eleven sources of infection, ten fingers and the naso-pharynx.

To prevent infections through fingers, vaginal examinations should be kept to a minimum and when performed should be conducted with the same strict technique as the conduct of labor itself.

Infection from the naso-pharynx is prevented by masking the nose and mouth of attendants during the whole course of labor, and nurses giving perineal care during the puerperal period. Carriers of hemolytic streptococci should be kept from attendance on maternity patients until swabs from the nose and throat are negative. This applies also to those with acute respiratory infection of any kind. If the patient has a sore throat or cough on admission, she should wear a mask during labor, when nursing her baby, or when perineal care is being given.

The diagnosis of puerperal infection is very often quite obvious, yet occasionally febrile puerperae are treated for puerperal infection when really not a specific infection. Therefore, in practice, it should be routine to think of puerperal infection first, but the patient should be subjected to a complete physical examination, and by a process of elimination the diagnosis reached that the disease has taken its origin in the genitals. It is wise to repeat the examination in 3 or 4 days or as often as necessary.

After the diagnosis makes certain that the case is one of puerperal infection, these questions are to be answered, all being essential to prognosis and treatment: 1. What is the anatomic location of the infection? 2. In what direction is it spreading and how far? 3. Is the infection more general than local, or more local than general? 4. What bacteria is causative? 5. Is there anything in the uterus?

The determination whether the infection is limited to the uterus or has already invaded the blood, is not easy. As stated by Schottmuller, in many so-called local diseases, hemolytic anaerobic streptococcus was cultivated from the blood. Unless anaerobic as well as aerobic methods are used, sterility of the blood may not be regarded as evidence that the bacteria are restricted to the genitals.

It is usually possible at least to determine the germ taking the leading role. In order to find out the causative bacteria, it is necessary to make careful studies of the blood, as well as of the lochia. A small quantity of lochia is obtained from the deeper portion of the vagina, by means of a simple suction pipette, and from which cultures are made, anaerobic as well as aerobic. Smears are taken but only the gonococcus may be identified with certainty, and this also requires care. Schwartz, Dieckman, and Harris have presented evidence to make us believe that endogenous infections are due to anaerobic streptococci. Cultures should be repeated if at first negative. It has been our experience that if cultures are allowed to incubate for several days, the number of positives is increased. The injection of adrenalin before taking a culture will also occasionally increase the number of positive findings.

VACCINATION DURING PREGNANCY AS A PROPHYLAXIS AGAINST PUERPERAL INFECTION

The problem of immunity to puerperal sepsis has attracted the attention of clinicians and biologists ever since the bacterial origin of this infection has been recognized.

The problem of puerperal sepsis goes beyond the problem of streptococcus infection alone. While the most severe of the blood infections are generally due to hemolytic strains, group A, many other morbid lesions are produced by bacilli in the colon group and various other cocci. With these facts in mind, we at the Jefferson Medical College Hospital, department of obstetrics, in the past five years, have procured a vaccine, endeavoring to eliminate by immunity the puerperal infections in general of the pregnant woman.

This vaccine consists of the following:

As a prophylaxis this vaccine consists of the following:

1. Streptococcus hemolyticus (Group A)—5 strains—35%
2. Streptococcus viridans—8 strains—15%
3. Staphylococcus aureus—2 strains— 15%
4. B. Coli communear—2 strains—15%
5. Streptococcus non-hemolyticus—4 strains—10%
6. Staphylococcus albus—10 strains—10%

These bacteria were gathered from the vaginal tract of 500 pregnant women over a period of 5 years by culture.

Bernstein and Otten have reported 228 pregnant women that were vaccinated and delivered. These women were taken at random and delivered by different members of the hospital staff without knowledge of their previous vaccination. In this group, the morbidity was 5 per cent as compared with the morbidity of 20 per cent in the non-vaccinated group. There was not a single fatality among the mothers in the vaccinated group. The fetal mortality was 1.1 per cent as compared with the corrected fetal mortality of the non-vaccinated group for the same period which was 6.85 per cent. The standard of morbidity used was a temperature of 100° twice in any 24-hour period, not including the first 24 hours following delivery.

We have no intention of going into details concerning this vaccine. It is only mentioned as a measure that may be used prophylactically in the armamentarium of the obstetrician. We hope in the near future to present a still larger group of vaccinated mothers and more conclusive evidence.

For prognosis of puerperal infection, we quote DeLee: "Infection varies in gravity with the anatomic part involved, the direction of its spread, the degree of invasion of the blood, and the nature of the infecting organism.

Gonorrhea is the least dangerous of the pus cocci. If the infection occurs early in labor, develops before it is finished, and does not subside immediately when the uterus is emptied, the disease is serious. If the fever begins within 36 hours or 48 hours after delivery, the same is true. A single chill at the beginning of the disease is only of moderate significance, but a second chill, or a chill occuring after a preliminary run of fever indicates graver disease, since these symptoms indicate advancing infections. Repeated chills and pyemia are not a fatal symptom, though very distressing and somewhat ominous. Continuous high fever from the start is an unfavorable symptom, as is extreme prostration, both usually indicating a bacteremia. Remittant fever is less serious. Rapid pulse is also a serious sign, significant of grave toxaemia; indeed,the pulse is a better indicator of the gravity of the case than the temperature. If the pulse remains about 100, the woman will rarely die. If it goes above 140, the prognosis becomes dubious. A good pulse with volume and force usually means recovery, but if it rapidly increases in rate, while diminishing in power, one may decide that the heart muscle is degenerating under the toxemia. A sinking temperature with a running pulse almost always points to fatal termination. Restful sleep, a warm moist skin, a good appetite, are favorable symptoms. The advent of septic endocarditis or of septic pneumonia or pleuritis immediately darkens the outlook. Delirium and even the typhoid state are not necessarily bad, but ominous. Absence of leukocytosis shows lessened resistance reaction of the patient to the attack of the bacteria, but recovery may take place even where leukocytosis is absent. When bacteria are demonstrated in the blood, the prognosis is very grave. If the organisms are numerous and easily discovered by ordinary cultural methods, and if they are found in all the examinations, the prognosis is more dubious than if they are few in number and discovered only occasionally in numerous tests. Albuminuria appearing and increasing is a bad omen, also the presence of glandular and epithelial casts. Women exhausted by profuse hemorrhage, by the toxaemias of pregnancy, by the severe and contusing operations, debilitated by alcohol, syphilis, tuberculosis, and the acute diseases, are all poor subjects for an added infection.

Finally, in making the prognosis, the state of the previous constitution must be debated. Much depends on the general health of the woman's heart and lungs, renal and hepatic functions often seriously diminishing her chances for recovery.

In the treatment of puerperal infection, prophylaxis still plays the important role in this disease. Much can be done during pregnancy to get the woman in perfect condition for the trial of labor—in order words, careful, judicious and intelligent prenatal care. The patient should be put in the best possible condition for resisting infections by the proper hygiene and management of pregnancy. Special attention must be paid to her nutrition. Vitamins A and B are said to fortify the gravida against infections. Kaiser and Slavin are of the opinion that vitamin C exercises an inhibitory effect on the growth of hemolytic streptococci in the human economy.

At the Jefferson Medical College Hospital, we have been vaccinating our pregnant patients against puerperal infections as a prophylactic measure. Our efforts are directed towards the general health to local disease and foci of infection are to be eradicated whenever possible before labor supervenes. The patient is also instructed in local cleanliness, and coitus in the latter months of pregnancy is forbidden.

During labor, the patient is guarded against exhaustion, from prolonged labor and from blood loss. The number of internal examinations are limited and when they are performed only done under the most strict aseptic and antiseptic precaution, and with the utmost gentleness.

We avoid all measures to shorten the time or interfere with the normal mechanism of labor.

We prevent perineal, cervical and vaginal lacerations as far as possible, but this does not mean that the vertex should be permitted to pound upon a rigid perineum for hours. In such cases, episiotomy and forceps are the methods of choice to terminate the labor.

The third stage should be conducted as physiologically as possible. And every effort is made to allow sufficient time to elapse before interference is justified.

Manual removal of the placenta should only be resorted to after one hour has elapsed and when there is a definite indication of retained or partially adherent placenta hemorrhage.

Placenta and membranes should be carefully inspected to determine if a portion of the former or shreds of the latter are missing.

Repair all lacerations primarily whenever possible. After this, see that the uterus remains contracted, otherwise avoiding all necessary manipulations.

The active treatment of puerperal infections is isolation as soon as the diagnosis is made. The isolation should be in a cheerful small ward or room with ample fresh air and sunshine instead of the usual unventilated, dismal quarters. Everything possible should be done to conserve the patient's strength and to help build up resistance. The diet should be as generous as the patient is able to digest, but the digestive tract should not be overloaded. Strong, clear soup, beef juices should be given and she should be encouraged to drink freely of water. The bowels should be emptied daily; if necessary, a low enema should be given. Should abnormal distention develop, surgical pituitrin, prostigmine, or a rectal tube will relieve this complication. Occasionally a hot stoupe applied over the abdomen will serve the same purpose; if the patient is restless and wakeful, a sedative should be administered; i. e., codeine or phenobarbital. The use of alcohol is recommended by some. We have found it useful in selected cases when given the dose should be ample. Various methods and numerous drugs and sera have been used in treating this serious and important condition. If we were to discuss the various treatments, a volume could be written, or maybe more. Therefore, we will confine our mode of treatment of other than the above general supportive methods to those employed at the Jefferson College Hospital, department of obstetrics.

First, the immediate isolation of the patient. Second, the great importance of instituting prompt therapy of all suspicious puerperal infection. Time is a very valuable factor and treatment must begin immediately and not delayed awaiting the results of blood and lochial cultures.

The administration of therapy employed depends on the type of infection.

The mild infections are combatted with supportive measures and directed to the local relief of inflammation and sustaining the individual resistive power. Few if any drugs are indicated and when injudiciously administered often do more harm than good.

The more severe types of infection, those whose invasion has progressed beyond the local area, are a more serious type of infection which may result in local accumulation of septic material in abscess formation in thrombophebitis, local pelvic peritonitis, para and spreading endometritis, and these demand more drastic medication and treatment. If by this time the type or organism causing the infection has been established our attention is then directed specifically to combatting this individual offender. In general, we do not use sulfanilamide except in those cases where the streptococcus Group A (Lansfield Class) are present. In the other groups of saproplutic and psygenic organisms are better combatted by blood transfusions and occasionally intravenous metaphen.

At the present time we are using only two drugs, sulfanilamide with soda bicarbonate or intravenous metaphen 1-1000 aqueous solution in the serious spreading infection. No matter which drug is used, blood transfusions are always given. Sulfanilamide is given in 20 grain doses with an equal amount of soda bicarbonate, every 2 hours for 3 doses. The patients receiving intravenous metaphen are given 10 cc. of 1-1000 aqueous solution of metaphen by the venous route. Injections are given every second or third day depending on the condition of the patient. When sulfanilamide is administered, we do not give any other drugs and we are very careful to watch the patient for evidence of nausea, vomiting and tinnitus, dizziness, dyspnea or acidosis. Blood is given intravenously in a combination with either of these two drugs. The blood from the donor is first typed and cross typed. The average transfusion is usually 150 to 250 cc. given preferably by the direct method. Attempts are usually made to secure different donors for subsequent transfusions. Digitalis, strychnine are used only when indicated. Otherwise the patient is treated along watchful and conservative lines. The presence of a fluctuating mass in the cul-de-sac is an indication for posterior colpotomy. We have treated several cases of thrombophlebitis with x-ray therapy but as yet our series is too small to offer conclusive results.

CONCLUSIONS

Puerperal sepsis can definitely be stated as preventive in most instances. It is imperative that we understand the type of infection with which we are dealing before treatment is instituted.

There are two definite methods of treatment which are of great value, after the type of infection is determined. Prophylaxis before labor and curative after infection is established. Prophylaxis is so vital that in view of our success with vaccines only as a prophylaxis, in the drop of puerperal morbidity from 17 to 5 per cent in the vaccinated cases it would seem to warrant a continuation of this measure. The importance of guarding the patient against infection carriers has been known to us all for some time. Curative or chemotherapy should always aim at sustaining the patient, preventing reinfections, isolation of the individual, and the proper administration of sulfanilamide, guarding the resistive power of the individual by the administration of small repeated blood transfusions. Sulfanilamide seems to be the choice for curative treatment in streptococci infection only, and its positive methods of administration are still in doubt. There is much to be desired and although this drug is so often inaccurately used it would not be amiss to mention what we have found to be the best way to combat the streptococci infection with this drug. The maximum blood absorption of the drug occurs within 8 hours after administration by mouth and we have met rather remarkable results in administering 60 grains in 20 grain doses in the first 8 hours. As the drug is rather rapidly eliminated, this can be repeated for a period of 3 or 4 days. Or in the serious type of infection 120 grains are given in the first 24 hours and the dose then reduced to 60 grains in the subsequent two days. In the seriously ill patient with puerperal sepsis, we have nothing to lose and everything to gain and we must take drastic measures to reduce the infection as promptly as it is recognized. Very gratifying results have been found to occur in the administration of sulfanilamide given in 48 grain doses in 1000 cc. of physiological salt solution by clysis in which the maximum absorption seems to take place more rapidly, and in two hours and a half it appears to have reached its height. This subcutaneous use of sulfanilamide has not been sufficiently tried by us as yet to state definitely that it is of equal value to the administration by mouth, but it does allow and maintains the advantage of quicker absorption and maximum blood concentration than by the better known method of oral administration.

We are on the way, a further step forward, thanks to the monumental work of the English scientists and investigators, the Colebrooks. We owe much to their monumental discovery of sulfanilamide in its relation and curative specific action in the treatment of streptococcal puerperal infection. A word of caution is here not amiss. Sulfanilamide is not a cure-all. It is a specific in streptococcus-hemolyticus (Group A) in almost every instance. It is often administered when not indicated and will be consequently condemned by the unbeliever. Perhaps, too much is expected in the future in combating this ancient malady. Our future hopes then may be considered brighter than for many centuries, but a warning is in order. We must not relinquish any part of our prophylactic care of the childbearing woman. We must diligently search, maintain, and hold the ground that we have gained by assuming a reasonable and intelligent management of all proved cases of puerperal sepsis and infection.

Recent Advances in Obstetrical Analgesia and Amnesia*

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It is not necessary for us to review the history of anesthesia, as it is well known to all of you. You are all familiar with the fact that obstetrical anesthesia was first used by Sir James Y. Simpson, who employed ether in his early cases, then replaced it with chloroform. You will recall of course that the violent controversy, medical and ecclesiastical, into which he found himself plunged was settled by Queen Victoria, who requested chloroform for her rapidly recurring deliveries. The doctrine that "the queen can do no wrong" was thus responsible for the fairly rapid spread of the practice of relieving pain during labor. However, it has taken all these years for obstetrical analgesia to become universal, and even yet we hear of physicians who feel that women should have little or no relief from the discomforts of parturition.

We must, of course, admit that analgesia and anesthesia are not required to the same degree by all parturients, and this applies to primiparae as well as multiparae. We have had several patients in labor for the first time who went through the first stage with practically no discomfort and who needed only a moderate amount of analgesia and anesthesia for the second stage. We must also admit that these drugs, like all other drugs employed in the treatment of disease, are not actual components of the body tissues and fluids, and have undesirable side effects in addition to the effects we desire to produce. The question is, are these undesired aspects of the administration of such preparations of such moment as to make their employment inadvisable? Personally, we do not think so, having it understood that the drugs are employed properly, in doses that are adequate but are not excessive.

It must be stressed that, no matter what drug or combination of drugs we employ, patients will be found to vary markedly in their reaction to these preparations, and that the dosages and the intervals between the doses will have to be varied to meet the needs of the individual patients. This means that close observation and frequent visits are necessary. If one has a nurse in his employ who is thoroughly trained in the employment of the particular method, and who can stay with each patient throughout labor, excellent results can be obtained. Otherwise, the physician himself must supervise the details, as it will be found that neither the nurses of the hospital staff nor the interns on duty in obstetric services have sufficient training in analgesia, nor can they devote the necessary time to each individual patient. This is not said in a spirit of criticism; their tours of duty are so short and the variations of technic of the various physicians on a hospital staff are so marked that it is not possible for them to master all the details. The reactions of the patients are so inconstant that it is at times difficult to appraise the degree of amnesia obtained. We have frequently felt chagrined at our seeming failure, only to have patients tell us later that they remembered absolutely nothing about labor.

We have stated that there may be undesirable results of these preparations, which we would prefer not to have, but which we cannot avoid. These concern chiefly the mother, and to a lesser extent the baby also. These side effects bolster the arguments of those who are opposed to the use of amnesic agents, or to their employment to the point of full effect. It is claimed that the patient is restless and uncontrollable, that the labor is prolonged, that the frequency of operative intervention is increased, that puerperal infection is more frequent, that the babies are often apneic and require resuscitation, and that at times this resuscitation cannot be accomplished, with a higher fetal death rate as the result. These claims are to a certain extent correct, the last one, granted always that the analgesia is properly conducted. However, in well managed deliveries, these disadvantages can be so minimized that most satisfactory results can be obtained.

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Let us consider these objectionable features in detail. It is obvious that any drug that affects the cerebral cortex to the extent that the patient remembers little or nothing that has occurred will so obtund the inhibitions that the reflexes will have full play. Hence, when a painful impulse is sent up to the higher centers, a message will be sent back to the effect that it is wise to move the affected area in an effort to get away from the irritant, just as a person lightly asleep will move the foot when the sole is tickled. So the patient will move and squirm around. She may even fall off the bed if not closely watched. This effect is more marked with some drugs than with others. She may complain freely and at times loudly of the pain of the uterine contraction, but in the intervals she will generally sleep rather soundly. In the second place, she will usually not employ the abdominal muscles and the diaphragm as efficiently in the second stage as she would if she were rational. This objection does not always hold, as some patients will employ the accessory muscles better when the pain of the contractions is minimized. There is generally no prolongation of the first stage; in fact, it often seems that it is shortened. Because of this lack of co-operation in the second stage, delivery by low forceps is more frequently resorted to, but this is almost a routine in primiparous labors in many clinics, and it is felt that (properly performed) it is not deleterious to mother or baby. Provided that the labor is aseptically and antiseptically conducted, the incidence of puerperal infection should not be increased. It is true that the percentage of babies showing a mild degree of apnea is higher, but when the analgesia is properly conducted this is a transient affair, and no baby should be lost from this cause. Personally, I have had no difficulty in this regard. It is probable that most of the drugs employed do pass over to the baby, but with the exception of morphine they produce little or no respiratory depression. Where morphine is employed, it is very essential that it not be given four or six hours, or better still, eight hours prior to delivery.

That this matter of apnea is of great importance is shown by the recent paper of Scheiber[1]. He reports a study of 500 children manifesting neurologic symptoms, and finds that 72% of them were apneic at birth. He made no attempt, in this study, to determine the relative roles of birth trauma and analgesic drugs in the production of the apnea. He feels, however, from his study of the birth records of many of these children, that the use of analgesic drugs in doses much larger than the ordinary pharmacologic dosages was responsible for many of the instances of severe apnea noted at delivery. This should serve to warn us to use the minimum amounts of these analgesics. It is interesting to note that Clifford,[2] reporting on the effect of analgesics on babies born at the Boston Lying-In Hospital, feels that (a) morphine and pantopon are very deleterious, (b) sodium amytal, pentobarbital, scopolamine, rectal ether, and paraldehyde apparently had no effect on the newborn infant, (c) the concentration of oxygen in the nitrous oxide-oxygen mixtures used at delivery was of great importance, and should not be less than 15%. The same conclusions are set forth in another paper by Clifford and Irving[3]; in this paper it is also stated that the stillbirth rate has fallen from 65 per 1000 births in the pre-barbiturate era to 56 since barbiturates have been employed, and the neonatal rate has dropped from 22 to 13 per 1000 births. In the discussion of Schreiber's paper, Galloway[4] states that inquiry among his pediatric and neurologic confreres in Evanston has failed to disclose late lesions in the babies they have delivered under barbiturate amnesia. It is to be repeated that Schreiber did not separate his patients into birth trauma and analgesia groups, so his figures at present are not conclusive. He states that he will do this in a subsequent paper.

Passing on from these preliminary considerations, let us turn our attention to the drugs most widely employed at the present time as obstetric analgesics. We must all agree with Clifford and Irving that morphine and other opium derivatives should not be employed. They are very useful in prolonged primiparous first stage labors due either to primary or secondary uterine inertia or to a resistant, slowly dilating cervix, but they should not be given in the last 8 or 10 hours of the labor. When in doubt on this point, it is best to refrain from employing these agents. Scopolamine still holds its own, but is not satisfactory unless combined with other agents. Rectal ether in oil, introduced by Gwathmey, is still popular; however, the technic has been extensively modified by some obstetricians who substitute a barbiturate for the morphine and eliminate the quinine and alcohol from the rectal mixture. Paraldehyde by rectum is employed by many, notably by Kane[5]. More recently, it has been employed orally by Douglas, et al[6], who administer it mixed with aromatic elixir. The various barbiturates (and their name is legion), are being employed, and the literature on these preparations is voluminous. Some one has said that it is a dull week for the manufacturers when they fail to turn out at least one new barbiturate. The ones most commonly employed are sodium amytal, sodium pentobarbital (nembutal), dial, seconal, acid alurate, sigmodal, pernocton. Let us consider a few of the combinations which appear to be particularly popular.

Sodium amytal has been extensively employed by many obstetricians. Combined with scopolamine, and at times with a small dose of morphine when delivery is well in the future, it gives excellent results. The technic of Pride[7], of Memphis, which corresponds closely with that of others, is as follows: When labor is established and the patient begins to complain of pains, she receives six grains of sodium amytal by mouth, and scopolamine gr 1/150 by hypo; to the latter is added morphia gr. 1/6 if delivery is not to occur within the next 5 or 6 hours. This is given whether the cervix shows any dilatation or not. The discomfort is the deciding factor. Three grains of sodium amytal is given at 3- to 6-hour intervals thereafter, if deemed indicated; the scopolamine may be repeated also, but not the morphine. Delivery is accomplished under gas anesthesia.

Nembutal appears to be more widely favored than sodium amytal. It is generally considered to have practically the same effect, with the exception that the patients are not as a rule so restless as those receiving sodium amytal. The dosage is about one-half that of the latter, the drug being supplied in 1½ grain capsules. Most of us administer 3 to 4½ grains as the initial dose, with 1/150 to 1/200 grain of scopolamine. Usually, it will be found necessary to administer one to three more capsules (1½ grains each), as a rule given separately every one to three hours. Galloway[8], however, prefers an initial dose of 7½ grains with 1/150 grain of scopolamine. In many patients, no further medication is needed, but if the analgesia wears off as time passes, Galloway gives 1½ to 3 grain doses, 1½ to 3 hours or more apart, as appears indicated. The 275 primiparae received an average of 9.3 grains of nembutal and 1/150 grain of scopolamine; the average duration of labor was 12 hours and 39 minutes, the average time from first dose to delivery was 4 hours and 40 minutes. There was one maternal death (hemorrhage after Casarean section), and two fetal deaths (one found at autopsy to be due to asphyxia after difficult labor, one to intracranial injury after a difficult forceps delivery). In the 227 multiparae the average dose of nembutal was 8.07 grains, with 1/150 grain scopolamine, the average duration of labor was 8 hours, and the average time from first dose to delivery was 2 hours and 34 minutes. There was no maternal death; one baby was lost after Caesarean section for contracted pelvis (24-hour trial of labor), diagnosis asphyxia (a total of 13½ grains of nembutal, 1/150 grain of scopolamine, ¼ and 1/6 grain morphine sulphate, 1/150 grain atropine, and 16 ounces ether by inhalation over a period of 5 hours constituted the maternal medication during these 24 hours). We feel that Galloway's doses are excessive, though he states, as quoted above, that the babies show no harmful effects, immediate or remote. The babies are rather drowsy for several hours, but he does not feel that this is a cause for worry. In Clifford and Irving's series, the average total dose of sodium amytal was 12½ grains and of pentobarbital 7½ grains. They give no details as to administration in this article. The general impression in New Orleans is that babies are more affected by nembutal than by other barbiturates. Krebs, Wulff, and Wassermann[9], reporting from Barnes Hospital in St. Louis, give the experience of the service for 20 years, using scopolamine-morphine (twilight sleep) for the major portion of the time, and barbiturates with scopolamine, with a reduced dose of morphine or none at all, for the past few years. The original technic was to administer an initial dose of morphine sulphate, grain 1/6, and scopolamine hydrobromide grain 1/133; the latter was repeated at 45-minute intervals for 2 more doses, and after that as indicated. The morphine was never repeated. They feel that there are no harmful effects to mother or child, and that fetal mortality is not increased. They now prefer scopolamine and barbiturates, with little or no morphine.

Kane and Roth[5] have for several years been employing paraldehyde mixed with benzyl alcohol, given rectally. The dose of paraldehyde is ½ cc. for each 10 pounds of body weight, that of the alcohol is always 1.5 cc., as it is used for the purpose of producing analgesia of the rectal mucosa. The dose may be repeated in 1½ hours, and after that every 3 to 5 hours, as needed. In some cases, ¼ grain morphine sulphate is given ½ hour after the initial dose if the patient is still awake. They report complete amnesia in 89.7%, partial relief in 2.6%, and no relief in 7.7% of their patients. Three and three-tenths per cent of the babies were stillborn, but they feel only 3 (out of 611 deliveries) can probably be charged to the method. Douglas, Peyton, and Siau[6] reported on the use of paraldehyde orally in 300 cases. The desire of the patient for relief of pain was the main indication, not the condition of the cervix or the position of the presenting part. Preliminary medication was given, an hour or less before the paraldehyde, either 1½ to 6 grains phenobarbital sodium (3 grains the usual dose), or 7/6 to 1/3 grain of pantopon. The dosage was 4 to 6 drams each of paraldehyde and aromatic elixir (average 5 drams) irrespective of the age, size or parity of the patient. Should it be vomited, the dose was repeated in 15 to 20 minutes. All primiparae were delivered by episiotomy and low forceps under anesthesia (generally nitrous oxide and oxygen). Amnesia began in ten to fifteen minutes, and was complete in twenty to thirty minutes; complete amnesia was obtained in 94.3% of the cases reported. There was no prolongation of labor and no increased blood loss. There was no maternal mortality. There were five fetal deaths in the 300 cases; two were dead on admission of the patient, one died of prematurity, one of intracranial hemorrhage (face presentation, prolonged second stage), and one of congenital atelectasis (the odor of paraldehyde being noted at autopsy on this infant).

Dial has been employed to some extent, being given intravenously, as a rule. Very little is to be found in the literature regarding it, but We have received favorable verbal reports from physicians using it. Pernocton has also been employed to some extent, but does not seem to be as satisfactory as the other barbiturates discussed above. Seconal is a quickly acting preparation, but is eliminated quickly also, and is best employed in conjunction with sodium amytal.

Emmet and Goldschmidt[10] have reported their experience with sigmodal, a barbiturate supplied in solution and used by rectal administration. The dose is 10 cc., which is given as soon as the patient begins to complain, with the cervix 2½ fingers dilated in primiparae and 1 finger in multiparae. The rectum is cleansed by an enema sometime before the administration of the drug. The catheter is passed well up past the presenting part, using a finger in the vagina to guide it, if necessary, and about 10 cc. of normal salt solution are instilled after the sigmodal to wash all the drug from the apparatus. Amnesia begins in about ten minutes, and is complete in twenty to thirty minutes. The patient sleeps between the pains, and tosses around, groaning or talking incoherently, during the contractions. The effect of the drug usually lasts about 4 hours, but at times it may extend over six to eight hours. If the effect begins to wear off before the patient is ready to deliver, 5 cc. more is usually sufficient to continue the amnesia. The authors report 20 cases, 138 being primiparae and 62 multiparae. Amnesia was complete in 85% of the cases, partial in 13%, and was not obtained in 2%. Labor was shortened rather than prolonged, no deleterious effect on mothers or babies was noted, the frequency of operative intervention was decreased and resuscitation was required in only 4 cases, all because of obstetrical difficulties.

Gwathmey[11] introduced his method of synergistic analgesia in 1917. This was used for many years at the New York Lying-In Hospital in a total of over 20,000 cases, and was widely employed elsewhere as well. The technic was as follows: (a) morphine sulphate grain 1/6 and 2 cc. of 50% magnesium sulphate as soon as the patient complained of the labor pains; (b) the same dose of magnesium sulphate, without the morphine, in ½ to 1 hour; (c) when the effect of these drugs wore off, a rectal injection was administered, consisting of ether, 2½ ounces, quinine bisulphtae, 15 grains, alcohol, 2 drachms, (to dissolve the quinine), olive oil to make 4 ounces. The effect of this lasted 4 to 6 hours, at which time it could be repeated if delivery was not to be expected in a short while. Although the results were generally very satisfactory, considerable restlessness was often noted, and some slowing of the labor was not infrequent. The technic has been modified by substituting a barbiturate for the morphine and magnesium sulphate injections, and by eliminating the quinine and alcohol from the rectal mixture. This method has been supplanted to a large extent by the use of the barbiturates or of paraldehyde.

In our practice, we first employed sodium amytal when it was placed on the market. The usual initial dose was 6 grains, combined with 1/6 grain of morphine and 1/150 grain of scopolamine. It was sometimes necessary to give additional sodium amytal in 3 grain doses, repeated every 2 to 6 hours until the second stage was well advanced. The morphine and scopolamine were not repeated. Satisfactory amnesia was obtained in most cases, but restlessness was quite a disturbing factor. Later, nembutal was employed, the usual initial dose being 3 grains, combined with 1/150 grain of scopolamine. Additional doses of 1½ to 3 grains were given as needed. The amnesia was very satisfactory, and the patients were not as restless as under sodium amytal. For the past two years, we have been using sigmodal, and find it much more satisfactory than the drugs just discussed. It is given when the patient begins to complain. The analgesia and amnesia are very satisfactory. Restlessness as a rule is not troublesome, but it is at times rather marked. All patients receiving obstetrical analgesia of any kind may be thus affected, and all should be under constant observation. Most primiparae have required the analgesia, but many of the multiparae have reached the stage of inhalation anesthesia so rapidly that preliminary medication was not needed. All patients were delivered under ethylene-oxygen anesthesia, using low forceps and episiotomy in the majority of the primiparae. There has been no maternal or fetal death during this period of two years, and during the time when sodium amytal aand nembutal were being employed, the two fetal deaths could not be charged to the drugs. The babies do not breathe quite as deeply nor cry quite as soon as do those of mothers receiving no analgesia. Resuscitation is employed for those babies showing any delay in the establishment of spontaneous respiration, at times unnecessarily. However, we prefer to be safe rather than sorry. There has been no particular difficulty in resuscitating any baby. They appear somewhat drowsy during the first twenty-four hours, but not much more so than the babies whose mothers received no analgesia. None of the babies has manifested any of the neurological symptoms discussed by Schreiber, so that we do not feel that any of them has been affected deleteriously. It will be interesting to try to determine if any mental or psychiatric condition develops later.

It should be noted that Adair and Pearl[12], studying the effect of sedatives on uterine contractions, found that morphine, nembutal, and codeine had no effect, while scopolamine tends to relax the uterus between the contractions.

One other point to be noted, which perhaps should have been considered earlier in this paper, is the effect of these various preparations on the mother. Practically all writers state that no deleterious results were noted. Montgomery[13], however, in reviewing the maternal deaths in Philadelphia during the five-year period 1931-1935, noted that 17 of the 1086 maternal deaths could be charged to the anesthesia or analgesia used, and that in many other instances the preparation or method used was most probably a contributing factor. Two of these deaths were charged to ether by inhalation, three to ether by the Gwathmey method, one to nitrous oxide-oxygen, one to chloroform, six to pentobarbital sodium, and three to spinal analgesia. It is rather surprising to find barbiturates so listed, but while the evidence given is not conclusive it is certainly very suggestive. Hence, caution as to dosage and careful observation of the mother's condition is very essential.

To recapitulate, then, we see that the various barbiturates enjoy the greatest popularity at the present time in the field of obstetric analgesia. Paraldehyde appears to be next in favor. The Gwathmey technic, original or modified, is employed by many. Comparable results are obtained by the various systems. As the higher cerebral functions are necessarily obtunded in successful analgesia and amnesia, restlessness, inco-ordination and lack of co-operation are concomitants of any method. Hence, constant supervision is necessary, maintenance of asepsis is more difficult, and operative incidence is increased. Consequently, hospitalization is preferable, though the various methods can be employed in the home. The effect upon the child and upon the mother must be borne in mind, and the dosage should be as small as is consistent with satisfactory results. Adequate equipment and assistance for fetal resuscitation should always be available. Familiarity with all the details of the particular method employed, and with the action of the drugs used in this method, is essential. Granted that all this is done, excellent amnesia and analgesia can be secured in the majority of cases, to the satisfaction of all concerned, without detriment to mother or child.

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Certain Gastrointestinal Manifestations of Vitamin B. Deficiency*

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THE PROBLEM of nutrition today seems more complicated than ever, in spite of apparent improved methods of living. This may be due to the increased speed of living, as compared to 20 years ago. Also, we must not forget that there seems to be an age of intemperance of late, dissipation on a large scale, smoking, drinking, drugs; other irritants, unquestionably, play their role. At any rate, the demands on the part of the body are not gratified, in spite of increased culinary expenses. The modern methods of preparing and purifying food, as well as improved methods of preserving foods are also possible factors.

A few years ago, the general medical attitude of vitamin deficiency and therapy was one of some doubt. Today we are forced to admit that the large and increasing scientific literature, spurred by high-pressure salesmanship and the general public interest aroused by the daily press and magazine articles, and also by one's practical application of vitamin therapy, that we are unquestionably uncovering a very important advance in medical science. Some of us may be too over-enthusiastic and impatient, and expect too much of a miracle, when instituting vitamin therapy. We should be sure of our aim before shooting, and not depend on guesswork. If we have substantial indications and give the proper dosage, we will reap proper results.

The vitamin problem of today is much more than the recognition of the most advanced stages of deficiencies. Most of the cases indicating vitamin B therapy are usually mild or subclinical cases. Unexplained anemias, especially of the macrocytic type, even though mild, should receive careful consideration from the clinician. It is well to remember a note of warning from those workers in the animal field who remind us that the members of a species larger in weight or height than the average, have a proportionately greater vitamin requirement. A great deal of attention is directed repeatedly to the increased vitamin need during growth and pregnancy, but not enough stress has been laid upon the equally increased vitamin requirements of patients with hyperthyroidism, cirrhosis of the liver, diabetes, gout and chronic osteo-arthritis, as well as the needs of the normal man or woman who is constantly overworking, either physically or mentally.

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The relationship of the vitamin lack to preoperative preparation of the patient has been one of much interest lately. It has been axiomatic in our better hospitals for the surgeons to invite the co-operation of the internist in preparing many patients for operation. Recently, Means stressed this need in the preparation of thyroid patients. In this respect, the use of iodine is only one factor, but of equal importance is the replenishing of the vitamin lack. Means has shown a decided drop in mortality from surgery after instituting this régime.

Too few surgeons have this point of view in regard to severe gastrointestinal diseases. Repeatedly, operations are performed in the presence of chronic diseases associated with deficiency states, with no other preoperative preparation than a transfusion. This is true especially in cases of chronic peptic ulcer, slowly developing gastrointestinal carcinoma, and chronic biliary tract diseases with low grade infections and liver involvement. Extensive intestinal surgery is performed upon patients with chronic regional ileo-colitis, with little or no thought of bringing the vitamin lack up to normal.

As surgeons become more aware that vitamin deficiency states have a more important prognostic significance, the internist will be given more opportunities to prepare adequately for operation. With a reduction in operative mortality in all hospitals, as has been the case in a few already, the use of the term "shock" as the cause of death, will show a marked decline.

Unfortunately, there have been no satisfactory laboratory procedures devised for detection of early vitamin B deficiency. We will have to depend on our special senses until such are developed.

It is the aim of this paper to try to correlate a few practical points of management, obtained lately, on cases treated at our clinic. I am mindful of the fact that vitamin B deficiency is wholly or partially responsible for many diseases or syndromes, such as beriberi, sprue, or pernicious anemia and pellagra, but I have had no proved cases of sprue or beriberi, and time will not permit a discussion of the gastrointestinal manifestations of pernicious anemia, even though there are some subjective and objective findings that overlap with pellagra.

First, I prefer to mention a few points about the tongue as a diagnostic aid. Careful inspection of the tongue also reveals manifestations of many systemic diseases, as well as specific deficiency disturbances. The chancre, mucous patch, or gumma of syphilis; strawberry tongue of scarlet fever, also seen in acute bronchitis, typhoid fever, pneumonia; the smooth glossy appearance in pernicious anemia and sprue; the bluish-black pigmentation in Addison's disease; pallor in severe anemias; cyanosis in congestive and congenital heart failure, dryness in diabetes, yellow pigmentation in jaundice; tremor of paralysis agitans and hyperthyroidism, and others should be observed. Familiarity with the color, furrows, pallor, papillae, evidence of inflammatory changes, blood vessels on under surface, form and size, etc., are to be noticed. Middleton made tongue prints on smoked paper, concluding that patients with hyperchlorhydria rarely had smooth tongues, but often scrotal or coated tongues. In organic non-malignant disease of the gastrointestinal tract, there is a tendency to the coated and scrotal type, more marked when hyperchlorhydria exists; it is apparently proportional to the degree of hyperacidity.

Among the causes of burning tongues, as well as small ulcerations and smoking, is the electro-galvanic burn caused by dentures composed of two metals constituting a galvanic battery, saliva acting as electrolyte.

It has been my good fortune to obtain from Dr. Sydenstricker of Augusta, Georgia, whose excellent research in pellagra we are all familiar with, a few colored photographs of various tongues in deficiency diseases. These photos represent endless work and are very unique in that they represent original work by Dr. Sydenstricker.

The analysis of 36 cases recently studied at our clinic, to me shows a very interesting, but by no means new, phase of — deficiency. I have selected these cases from a collection of a larger number of questionable ones. These 36 cases represent rather classical clinical evidence of B deficiency, as well as proved therapeutic responses. The causes of these deficiences vary from dietary indiscretions to arteriosclerosis, hyperthyroidism, and other chronic devastating diseases. There are no cases due to alcohol or malignancy, as far as I could ascertain. The ages of these cases range from 26 to 81, an average age of 55. There were 21 females and 15 males, 32 white and 4 colored. There was very little anemia noted, which was of the macrocytic type. The erythrocyte count varied from 3,200,000 to 5,600,000, average 4 million 400,000. The hemoglobin ranged from 72% to 92%, average 85%. The fractional gastric analysis was rather true to the usual stated rules. There were 26 cases that had a complete achlorydria. One case had a nor-HCl curve; 3 cases had moderately low curves, and 6 cases showed faint traces of HCl toward the end of the test. Twenty-eight cases had no lactic acid: all cases of achlorhydria had no lactic acid; 8 cases had traces of lactic acid.

Chemical blood was noted in 23 cases, varying in quantity from 1-plus to 4-plus; 5 cases had 4-plus; 13 cases had 2-plus, and 4 cases had 1-plus.

Pepsin was present in 9 cases, usual quantity; diminished in 21 cases; absent in 6 cases. Pepsinogen and rennin were present in same proportions as in pepsin. The microscopic examination of the stomach content showed no further characteristic or suggestive finding.

It is also significant to notice that there had been careful fluoroscopic examinations performed on stomach and duodenum of 31 of these 36 cases. There was no demonstrable organic pathology noted on any of these cases. It is, however, very significant that in all cases where there was reported fluoroscopic evidence of large regular or irregular atonic duodenal caps, that the HCl curve showed constantly, with a very few exceptions, achlorhydria. The general contour and tonicity of the remaining duodenum seemed to correspond with that of the duodenal cap. There were no characteristic findings in the fluoroscopic examination of the stomach, other than slow motility and a tendency to atonia.

In reviewing the subjective symptoms of these 36 cases, it was noted that there were only 5 cases of diarrhea, more frequently constipation was noticed; a great many suffered with anorexia, burning of tongue, esophagus, stomach, and in rectal region. They usually tolerated alcoholics or any stimulants poorly; vague and irregular pains in legs and especially recurrent attacks of pain in back or stiff neck in the more obese. In addition to the glossitis, we also noticed stomatitis in varying degree. The tongue findings were usually red and slightly raw with loss of normal papillae, some furring, and some signs of atrophy of papillae. Occasionally various mild cardiovascular symptoms were detected. The mental symptom, expressed by the more illiterate as a "foolish feeling" about the head, was noticed frequently; in fact, seemed to be a constant complaint in the negro suffering with pellagra in its early or late stages. There were no febrile instances noted, unless it was the result of other conditions, nor were there any urinary symptoms. Various types of peripheral neuritis were frequently noticed. In the colored cases and a few white cases, mild pigmentation of hands and neck was seen.

These cases, while a small number, represent a few points that are interesting. There were many other cases, especially negroes, that had classical clinical evidence of pellagra, but unfortunately no gastric analysis or fluoroscopic or x-ray examinations were made. The points of particular interest were the grouping together the syndromes, together with the HCl curve, as well as the fluoroscopic study of the upper gastrointestinal tract. They, by no means, represent a criterion for diagnosis of the various stages of pellagra.

If we are to approach an ideal for management of such cases, it seems that we are to depend at present on such procedures.

CONCLUSION

Let's not forget the expressions by some of the greatest authorities on nutrition, which refers not only to the vitamin need, but implies always the question of calcium and phosphorus need. This deficiency frequently accompanies the vitamin deficiency syndrome.

Careful examination of the tongue, mouth and other mucous membranes, should be performed at different intervals if necessary. Careful study of the general physical condition, attention to the finer, and sometimes apparently insignificant points of the history; adaption of a schedule of laboratory procedures with particular reference to the fractional gastric analysis, study of the erythrocyte count, x-ray study of the intestinal tract, are, to me, the most important methods of detecting various stages of pellagra.

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DISCUSSION

Dr. Green (Tupelo): Dr. Clark brought out many interesting conditions in his paper which quite obviously are due to the failure to supply the organism of the human body with proper amounts of various dietary essentials, chiefly those in the vitamin group.

It has taken a long time for the medical profession to appreciate the fact that one of the best treatments of any condition is the maintenance of a proper nutritive state. Of course, this means thinking about food instead of new and interesting drugs and similar remedies. In our interest in these more novel kinds of treatment we too often forget the obvious fact that unless the organism is provided with an adequate supply of all of the dietary essentials, it cannot recover as we may desire.

In 1928, Castle demonstrated clearly for the first time an asymptomatic abnormality of gastric secretion might condition a state of dietary deficiency irrespective of adequacy of the diet. Since then knowledge of the relationship of disorders of the gastrointestinal tract to various dietary deficiency disease has advanced rapidly. Beriberi, scurvy, pernicious anemia, pellagra, alcoholic and pregnancy polyneuritis, and toxemia associated with intestinal obstruction and vomiting in pregnancy, among other conditions may be due in many instances wholly or in part to deficiencies resulting from disturbances of the gastrointestinal tract.

However, extensive researches resulting in increased knowledge of the chemical and physiologic activities of some of the vitamins have caused recognition of early and preclinical states of partial deficiency with increasing frequency.

Since the gastrointestinal tract is primarily concerned with the digestion and absorption of food and, therefore, with the general nutritive state of the individual, it seems like a close relationship should exist between alterations in gastrointestinal function and the occurrence of a deficiency state, relative to human deficiency factors.

If we are to provide these special cases with sufficient amounts of the various vitamins, it is necessary to know about how much of each is required by the individual. If we know, for example, that a normal adult human being needs as a minimum from one to two milligrams of pure vitamin B per day, then, in the face of an abnormal alimentary tract, we can allow for wastage due to imperfect absorption. How about the other vitamins? Present indications are that the average person requires at least 3500 international units of vitamin A daily, and probably about one milligram of ribo-flavine (vitamin G) per day. Mere recitation of these figures should suggest to us that we have here a field of knowledge most important to physicians treating these cases; and if this knowledge is to be properly applied, the doctor in charge must become familiar with it or else see that some of his associates have the requisite information applicable to these particular cases.

How are we to give all of these vitamins? I know that it is clinical variance to suggest that we should give "mixed remedies" or so-called "shot-gun prescriptions." However, it seems to me that we are perfectly justified in giving these vitamins in the form of mixtures. I think the Council on Pharmacy and Chemistry of the American Medical Association has ruled definitely against such mixtures of vitamins. If these physiologically important substances were like drugs in their action, then this attitude would certainly be correct.

However, the vitamins are essentially foods, all of them are required, and to my mind the only serious argument which can be advanced against the use of mixtures of them is that in such mixtures some of the vitamins may inactivate others. But this is a matter amenable to laboratory and clinical tests, and the results of such tests already at hand do not afford convincing support for the position taken by the Council.

Since mixtures of the vitamins are not to be permitted, the doctor is necessarily forced to give to the patient who cannot very well handle materials via the alimentary tract, parenteral injections, first of one vitamin, then of another, and so on. This is a most impracticable and seemingly unnecessary procedure, especially when suitable mixtures containing at least the daily requirement of all of these essentials can doubtless be provided. When dealing with fundamental food factors instead of drugs, as in this situation, it seems to me that we are justified in suggesting that it is proper at times to administer vitamin mixtures in clinical work.

Such studies have indicated clearly than an abnormal diet is not the only factor responsible for the development of a deficiency disease in an otherwise healthy person. Other significant predisposing factors include an increased requirement for vitamins during periods of growth and increased metabolism in pregnancy, infectious states, toxic conditions, and altered metabolism with respect to a particular vitamin. It is the purpose on this occasion to consider another factor, namely, altered gastrointestinal function to the development of deficiency syndrome. Gastrointestinal disease is the condition most commonly present as an etiologic factor and one which may be operative without respect to the adequacy of the diet.

Lack of vitamin B-1 produces first of all anorexia and later all sorts of functional gastrointestinal disturbances. This is accompanied by alterations in secretion and profound changes in muscle tone. It is this last, the loss of intestinal muscle tone, that gives rise to the abdominal distention and other forms of discomfort.

Lack of vitamins A and C also causes gastrointestinal disturbances of vague nature, but these are not so pronounced as in the case of B-1. The men at Duke University believe that peptic ulcer may be due to lack of vitamin C. The general feeling today, however, is that the deficiencies seen in such gastrointestinal disturbances as peptic ulcer and chronic ulcerative colitis are the results of the disease rather than its cause. It is also thought that vitamin deficiency is the cause of chronic ulcerative colitis.

In a consideration of the diseases of gastrointestinal tract which predispose to deficiency disease, the following might be said.

Gastro-analysis should be a routine procedure in the presence of gastrointestinal disorders and clinical symptoms, and signs which suggest early deficiency disease should be searched for carefully.

Unusual nervous conditions and mild psychic disorders, skin and nail changes, glossitis and atrophic tongue, bleeding gums and dental cares, paresthesias and pheripheral pains, all these suggest early deficiency.

Proper treatment should be given before the more definite deficiency syndromes develop.

C. L. Hartsock of Cleveland Clinic puts great stress on the importance of diseases resulting from negative agents, as well as from positive agents, and the only method for combating such diseases is an adequate supply of the missing agent.

Dr. W. H. Frizell (Brookhaven): We are all so prone to follow the present day teachings that we are making a most spectacular forward movement in surgery—more so than we are in internal medicine, and it certainly is refreshing to hear Dr. Clark urge the surgeon to call in the internist in consultation with many patients, and thereby do away with a great deal of useless, if not detrimental, surgery. We have found that frequently a pain in the belly does not mean appendicitis. It may mean hookworm, which is an internal medical disease. And let me sound a warning here: We are too prone to put men in the hospital who will operate on the referring doctor's diagnosis, which is not made any too well and thoroughly by laboratory confirmation. In this way there have been cases in Mississippi operated on for acute appendicitis that were due to typhoid fever, and three deaths have been known to occur in an epidemic of 9 cases in one community because too little attention was paid to internal medicine. All of you do not date back to the old-time doctor who did his clinical study at the bedside. He did not have any laboratory work; he observed the tongue, the pulse and the skin. How he did it is uncanny. We said it was guesswork, but he had a way of looking in the patient's eye in order to evaluate his diagnosis, and I like to see and observe this. Too few of us can understand these things because we depend too much on the laboratory to make our own diagnosis, and I think that medical men, like poets, are born and not made, and we should have an aptitude for medicine.

I want to commend Dr. Clark for bringing out this subject and I wish this hall could have been crowded so we could take back his message as the text for our next year's observation.

Dr. E. C. Parker (Gulfport): I wish to compliment Dr. Clark very much and hope that he will keep up this study and bring us another report later on because this is one of the most important things we have had.

There were just a few suggestions he made that I want to stress. One is the high-pressure salesman. A druggist tells me that he can tell after two days if there has been a high-pressure salesman in town. We have to correct a tendency to let those men practice medicine for us. And I want to jump on our teaching schools that do not teach the young man how to write a prescription. He should know how to do this. If the men will sit down and study their cases they will do better. That is one thing that the American College of Surgeons is trying to do in putting the minimum standards for your hospitals and if your hospitals will do it correctly your patient will be a great deal better off. You must put down your working diagnosis before you start treating your patient, and when you finish you must put your complete diagnosis on there and you will see how the two correspond.

Another thing, before the patient is carried to the operating room the preoperative examination must be on that chart, and afterwards put on your procedure and compare the two. We do not examine our patients. We would pick up a great many more things if we would examine them, and as Dr. Frizell spoke of hookworm causing a pain in the belly—yes, many a time you pick that up, and another thing, especially in children, look out for low right-sided pneumonia because the pain will refer right down right over the appendix. Another thing, look out for pyelitis, and I appeal to you to examine your patients and you will be better doctors.

The Role of Orthopedics in the Treatment of Strabismus*

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It is distressing to note when considering the treatment of squint, to find how long excellent knowledge of this disfiguring condition has existed and yet how relatively little use has been made of this, knowledge through the years.

It might be said that the history of ophthalmology began with understanding of this defect, as squint was mentioned by the earliest medical writers, though they offered no plan for correction. Squint was then, and is now, considered by some of the laity an affliction visited on one by an angry deity. A look from a cross-eyed person is still regarded by the superstitious as the beginning of ill luck. Hippocrates, Celsus, Galen, Fallopius and Aegineta recognized the condition and offered various suggestions for its cure.

The first attempt on record to employ the principle of occlusion was by Aegina who made a mask with small perforations that covered both eyes. Ambroise Paré in 1509 continued this thought, making his perforated spectacles from bone.

In 1727 John Taylor introduced his operation for squint. He used a needle and thread, picked up the conjunctiva over the involved rectus muscle and made an incision beneath it. He then covered the other eye and showed the marvelous results of his work—the squinting eye naturally straight. Whether he actually did a tenotomy of the muscle is not known.

The first really important advance in the correction of squint was made by Buffan in 1743. He covered the good eye and forced the use of the squinting eye. He also advocated the use of glasses for correcting the visual acuity. Thus by the eighteenth century the two most important factors in the nonsurgical treatment of squint were known.

Tenon in 1806, with his masterful anatomic description of the eye and orbit, paved the way for the surgical treatment of squint. The first actual operation on a living subject by Pauli of Landeau was a failure, but Dieffenbach in 1839 successfully executed the procedure of tenotomy.

In 1857 Von Graefe, having observed the poor results of complete tenotomy, advised advancement of the weaker muscle. Critchett of London at the same time described his three-stitch operation which is probably the first successful use of the advancement theory. Landolt in 1857 improved the operation and all subsequent procedures have been modifications of his operation. Claude Worth in 1903 presented his fusion theory of squint and put visual training on a sound basis for the first time.

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This brief resumé of the history of squint shows how much disjointed information had been accumulated and how little correlation of it was utilized.

From 1900 to 1920 orthoptic training in conjunction with operation has been practiced after a fashion by individuals but it probably was first put on a scientific basis by Dr. Maddox in London in 1919. Since this time it has gradually become a potent factor in the treatment of squint and all writers on the subject give more support to its use as its obvious value increases. It is true, as pointed out by White and others, that the continuous use of training in certain individuals may cause harm or produce a neurosis, but we feel that in the hands of a trained technician and under the supervision of a competent ophthalmologist these cases can be recognized and deleted.

We believe there is crystallization of thought along the lines of orthoptic training before and after surgery. It is too true that orthoptics in the hands of the untrained is a waste of time and effort, but, fortunately, that abuse is gradually being eliminated by the standardization of training for orthoptic instructors. The question of what surgical procedure to use is still debated whenever ophthalmic surgeons get together. In our hands recession and resection have proved of greatest value. For the last five years we have combined training before and after the surgical correction of squint and feel that we have obtained both cosmetic and functional results with this procedure.

Every squint patient is not acceptable for orthoptic training. After a trial period if progress is not made, training should be discontinued. Patients with mental defects or congenital amblyopia certainly do not lend themselves to orthoptic training. The age of the patient plays an important part in the length of time necessary for successful results. The very young may prove disappointing in their inability to concentrate and in quick fatigue during the exercise period. Usually better results are obtained by keeping in touch with the young child, periodically checking the angle of squint and the degree of amblyopia. Fusion training should be started just as soon as the child will co-operate. Good results have been obtained with children as young as four years but usually a five- or six-year-old child will bring more satisfying results. Children between six and twelve years of age are the best subjects for training because of greater co-operation and interest.

After the proper correction has been given under a cycloplegic, if the vision in one eye remains amblyopic or a strong amount of suppression is present, an effort is made to bring the visual acuity to its maximum. The most satisfactory method of accomplishing this is a patch of adhesive plaster with gauze underneath worn directly over the eye. After a few days the patient becomes adjusted to the pad and accepts it with less difficulty than patches worn only a few hours a day. He is not annoyed by the dread of occlusion time and goes about his daily life quite normally after the first week or two of padding. During the period of occlusion the patients should be seen at least once a month, at which time the vision is checked in each eye. Meanwhile amblyopic exercises are practiced at home. Definite types of amblyopic work should be given, such as drawing and cutting designs, sewing and building blocks. As the vision improves reading is begun. The funny papers will almost always induce a child to try to read.

In the favorable cases improvement can usually be measured by the ability to read another line of Snellen test type a month, if occlusion has been faithfully carried out. The very young patients respond much quicker in treatment of amblyopia but results have been obtained in the early teens. After vision has reached its maximum a tape of adhesive may be used on the glasses, occluding the stronger eye. Often the tape is alternated on the glasses until the state of binocular vision has been reached when the suppression is not likely to recur. The alternating tape is a time saver in that diplopia in most patients will not be tolerated. The tape on the glasses is also worn in false projection or abnormal retinal correspondence cases and true alternating cases where strong suppression must be broken.

In cases of false macula and paresis, occlusion is not advisable. If after a trial period the case seems one of congenital amblyopia, occlusion is discontinued.

The preoperative training period is to teach the patient binocular vision at his angle of squint and gain as much amplitude as possible. The patient is thus able to take better advantage of the postoperative training. If the patient knows how to fuse it is often possible to overcome the deviation remaining after surgery. For this part of the training one of the major amblyoscopes is necessary. The orthoptoscope, synoptophore or synoptiscope is acceptable. These instruments are very adaptable to the different stages of training. With either of these instruments the corneal reflexes may be watched.

The most important factor in training a person with squint is the presence of true projection or the correction of a false projection or abnormal retinal correspondence. Frequently false projection is found in true alternating squints and if not corrected before surgery the patient will turn his eyes back in, sometimes to almost the original deviation in order to overcome the unaccustomed diplopia by the old habit of retinal correspondence before the new projection has time to become fixed. True projection is obtained by working at the objective squint angle and not allowing the patient to return to his old subjective angle. Occlusion of the fixing eye or alternating the patch in a true alternater is very necessary. Homework at this time is certainly not advisable and training should be carried out only by an expert technician. Oftentimes a monocular diplopia will develop in one or both eyes. When true projection is present it usually is obtained by stimulation with a simultaneous perception slide at the angle of squint. Here fusion training is begun. At first only the simple fusion slides are used leading up to the appreciation of depth in stereoscopic slides. In working for amplitude the patient tries to keep the fusion slides together as the slides are slowly diverged until the pictures are seen separating. They are again returned to the fusion angle and another attempt is made to hold the pictures together.

Often after a patient begins to maintain some aplitude he is able to recover fusion before returning to his angle of squint. At this time he is started on homework. A recession exercise with red and white lights is very simple and effective for homework. The stereoscope with various picture cards is excellent. The parent and child who co-operate with homework will decidedly shorten the training period.

We begin orthoptic training about a week after surgery. The training is taken very slowly at first in order not to put too great a strain on the muscles just operated on. If possible the patient is seen every day for several weeks in order to take advantage of the pliable newly corrected muscles and to watch closely the variation of the squint angle from day to day.

If diplopia is present after surgery the fixing eye is occluded until the patient has learned with his correction to maintain binocular vision. By wearing the occluder, quite often the patient is prevented from making a new projection or returning to his old false projection, and suppression is also prevented. Homework is given with the recession exercise, and the stereoscope and cards are a necessary adjunct at this time. After the patient has learned to dissociate convergence and accommodation, bar-reading is most helpful. When the patient can with correction hold the Worth four dot test at infinity comfortably and without correction four or at least five dots, the patient is dismissed to return for periodic examinations.

CONCLUSIONS

Orthoptic training in every suitable case of squint, with or without surgery, is of definite value. Individual complications arise with each patient. Irregular attendance through sickness or outside interest, non-co-operation of parents and child, lack of intelligence for concentrated work, the length of time and frequency of visits necessary to the office and the inability to meet financial demands make orthoptic training hard to use as freely as we would wish. Considering these complications, however, the satisfying results in 40 per cent of the orthoptic cases that have met the requirements, make us feel that without it we are not giving the patient the treatment that he has a right to expect.

The Indications for Surgery in Peptic Ulcer*

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Until quite recent years the treatment of peptic ulcer has been a subject for unending debate. The internist, on the one hand, maintained that the only way to treat peptic ulcer was medically and from that prejudiced viewpoint he refused to recognize any surgical indications with the possible exception of acute perforation. Even in this acute catastrophe, he frequently insisted upon instituting that form of ultra-scientific treatment (which, as all good things, is frequently abused) of "watchful waiting."

Now on the other hand, the surgeon was equally uncompromising and holding tenaciously to the idea that all ulcrs should be treated surgically. There were few men who held the middle ground between these extremists, and consequently the poor patient suffered.

After a period of observing peptic ulcer patients more closely and with less prejudice there developed a saner and safer attitude among both the internists and the surgeons. At the present time most all of us surgeons and most all internists agree upon the indications for surgery in peptic ulcer, and it is these indications that I wish to discuss briefly at this time.

Although the etiology of peptic ulcer is unknown[1], we have every evidence that a patient with peptic ulcer is afflicted with a general physical and, more than likely, mental malady and that the ulcer is only a local manifestation of that disease. With this viewpoint, we then believe that all chronic ulcer patients are primarily medical patients and that indications for surgery arise when complications[2] of the ulcer occur.

Duodenal ulcer and gastric ulcer have been grouped together under the term of peptic ulcer for so long that it is hard for us to dissociate them. However, their clinical behavior, the high incidence of gastric carcinoma, the almost non-existence of duodenal cancer and the distinct differences in treatment force us to view these two ulcers as different disease entities. So in our discussion we will first speak of the duodenal and then the gastric ulcer.

The complications of duodenal ulcer demanding surgery may be enumerated as:

1. Acute perforation.
2. Pyloric obstruction.
3. Penetration.
4. Hemorrhage.
5. Continued disabling symptoms after complete and adequate medical care.

Perforation

The perforation of a duodenal ulcer is one of the most dramatic catastrophes that can occur to man. It usually comes as a "bolt from the blue" in a patient who has previously had ulcer symptoms but it may occur, and frequently does, in persons previously symptom free. It is needless for me to go minutely into the symptoms and signs of perforation with you for you know them as well as I do. However, there is one sign frequently described in the textbooks and periodicals, which is very misleading and I do wish to consider it for a moment. That sign is the so-called "shock."

The word "shock" has a very definite surgical meaning. It describes a physical state which we clinically recognize by subnormal temperature, rapid and weak pulse, profuse sweating and low blood pressure. It is true that a patient with an acute perforation of an ulcer looks pale and has cold sweat upon his brow, and his temperature may be subnormal but his blood pressure is within normal limits and his pulse has a normal or only slightly elevated rate and is full and bounding. In short the patient is not in a state of shock. As Lord Moynihan[3] pointed out several years ago, the patient is in a state of prostration but not shock. I make this point for occasionally we find physicians waiting for low blood pressure and fast pulse before making a diagnosis of ruptured ulcer, thereby losing precious time for the patient.

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When perforation occurs surgery is indicated immediately. The more delay between perforation and operation the greater the mortality. Of those patients operated within six hours approximately 95 per cent will recover. Where delay has been more than twenty-four or thirty-six hours the prognosis is most grave.

Pyloric Obstruction

Pathologically, obstruction of the pylorus in duodenal ulcer has two causes. It is either produced by scar formation, which is the direct result of nature's repeated attempts to heal the ulcer, or it is produced by edema and pylorospasm which are the result of a more or less acute inflammatory process about the site of the ulcer. There is perhaps a certain amount of each pathological state present in every obstruction, but in the one, obstruction persists following subsidence of edema and in the other patency is restored.

When obstruction is produced by scar we obtain a history of occasional vomiting of previously eaten food, not after every meal nor every day at first. This vomiting has occurred for a long time and we find a patient lean and perhaps emaciated and showing varying degrees of vitamin deficiency[4]. When we see this type of ulcer patient a diagnosis of pyloric obstruction can be made without the benefit of the roentgenologist. However, x-ray examination of the patient after the administration of barium confirms the diagnosis and surgery is definitely indicated.

The patient with obstruction caused by edema and pylorospasm presents a somewhat different problem. Here the indications for surgery may sometimes be more dubious. Here the ulcer symptoms are more acute and the symptoms of obstruction are more pronounced and alarming. The obstruction has occurred more rapidly and the stomach has not had time to dilate (which is the physiological response or biliary tree).

The patient shows more pronounced signs of dehydration and perhaps some degree of alkalosis which is caused by loss of hydrochloric acid from the stomach. With continuous suction-siphonage keeping the stomach completely empty, while dehydration and its associated problems are adequately combated by intravenous therapy, the obstructing edema and pylorospasm will subside leaving a stomach which empties completely. The question then arises whether to attack the ulcer surgically or not. It is our opinion that if it is the first occurrence of the obstruction it is possibly wisest to place the patient on a rigorous medical régime. If the obstruction recurs then operation should be seriously considered.

Penetrating Ulcers

Penetrating ulcers are ulcers which are perforating slowly enough for protective adhesions to form. By this process, the lesion may become adherent above to the gall bladder or liver, posterior to the pancreas, or below to the tranverse colon. If penetration is allowed to continue a liver abscess, pancreatic abscess or, even more seriously, a duodeno-colic fistula may be formed.

Penetrating ulcers may be diagnosed by the changes which come in the symptoms of the previously uncomplicated ulcer. No longer does soda or food relieve the pain which is now constant. If penetration is posterior into the pancreas the pain is apt to be "boring" in nature, going straight through the patient to the back. There may be referred pain to either shoulder. Diagnosis may be confirmed by the x-ray and surgical attack is definitely indicated.

Hemorrhage

Bleeding duodenal ulcers comprise a group of cases which call for the most exact medical and surgical judgment. It has been taught in many medical schools and fixed in the minds of a great number of practicing physicians that a patient does not die from hemorrhaging ulcer. This idea has been proved to be absolutely fallacious. In large groups of cases the mortality from hemorrhage has been between five and ten per cent. We know now that hemorrhage from an ulcer is not something to be taken lightly.

Practically speaking, 95 per cent, or even more, of hemorrhages occur when the ulcer lies on the posterior wall of the duodenum and erodes through one of the large branches of the pancreatic-duodenal artery or even the main branch itself. Spontaneous or physiological control of hemorrhage at this site is made difficult because the free ends of the vessel lie in tough, unyielding, inflammatory tissue.

According to surgical indications patients with hemorrhaging ulcers may be placed into two groups: the group below fifty years of age and the group above fifty.[2]

Above fifty the patient's arteries usually show some degree of arteriosclerosis and their normal contractility is lost. There has been an ulcer present longer than in the younger group and consequently there is more scar tissue present. These facts all indicate future hemorrhage though the first is overcome, and with each recurrence a fatality is more eminent.[5] For this reason we advocate surgery in the older person with bleeding ulcer when the first hemorrhage is controlled. We do not believe these patients should be allowed to run the risks of future hemorrhage.

The younger man's situation is different. His blood vessels have their normal tone, are capable of responding to hemorrhage in a normal way and are surrounded by less unyielding, inflammatory tissue. Hence, following his first hemorrhage we believe he should be placed on a rigid medical régime. Surgery is not to be contemplated until he has had one or more recurrences during the course of medical treatment. It is surprising and most gratifying to see how few hemorrhages will recur in these younger patients after adequate medical care.

From what has been said you would suspect that occasionally a hemorrhaging patient would die before even the first hemorrhage was controlled. That is definitely true and occurs more frequently, as you also would suspect, in the older group. Now surgery can save some of these hopeless cases.[6] To operate in the face of severe and active hemorrhage is never a desirable procedure. However, by heroic effort it can be done and sometimes saves a life that would otherwise be lost. When to step in and operate a hemorrhaging ulcer demands the most exacting surgical judgment. When the point is reached where it is hopeless to believe the hemorrhaging will stop spontaneously, then surgery should be instituted without further delay.

FAILURE OF MEDICAL REGIME

In the failure of medical régime, as an indication for surgery, we are frequently placed in a doubtful state. We might rightly wonder whether the medical treatment was adequate in the first place. However, we do know that about 10 per cent of duodenal ulcers will not respond to the medical treatment that we today believe is adequate. Tomorrow with more understanding and perhaps a definite knowledge of the etiology our views may change. At the present time we believe that when the medical man with the surgeon agrees that further medical treatment is useless, then surgery should be done.

There are some who hold that the refusal of a patient to stick to a medical régime is an indication for surgery. We emphatically do not hold any such notion. To begin with, we believe, as pointed out in the first of the paper, that a patient with ulcer is to be treated medically all of his life. He is to be treated medically before surgery and he is to be treated medically after surgery until he dies.[2] If he refuses this treatment some of the saddest and most difficult complications, as recurrent postoperative ulcers, gastrojejunal ulcers, and gastrojejuno colic fistulae will occur. Now if a patient refuses to stick to medical treatment before surgery he will most certainly do the same thing afterwards. Some of our own most unhappy moments have been spent with these patients. We have learned our lesson.

GASTRIC ULCER

Acute perforation, obstruction, penetration and hemorrhage in gastric ulcer produce the same indications for surgery as they do in duodenal ulcer. Hemorrhage in gastric ulcer is much less frequent than in duodenal ulcer and consequently is much less of a problem. Incidentally, when severe hemorrhage does occur, we usually find the ulcer situated high on the lesser curvature where it has eroded through the left gastric artery.

The question of cancer arises every time a gastric ulcer is diagnosed in contra-distinction to duodenal ulcer. We are not the least bit interested in the age-worn argument between pathologists whether a cancer develops in a previously benign ulcer. The thing we are interested in is whether a cancer is present when we see the patient.

We do know that ulcers on the greater curvature are almost certainly malignant, that ulcers on the lesser curvature are more than likely benign and that ulcers on the anterior or posterior surface may be either.[2] We believe of course that the greater curvature ulcers should be operated as cancer and when the diagnosis is made.

As for ulcers situated elsewhere in the stomach, we believe they should be treated medically for a while and treated most rigidly We believe that if the symptoms have not been relieved, or if there is no x-ray sign of healing in one month's time that the ulcer should be operated immediately without any thought as to its location or its pathological chances for being malignant. Clinically, we hold that such an ulcer is malignant until it is removed and the pathologist has made his diagnosis. Sometimes at the end of the month there will be some, but not complete, improvement. In that case we might feel justified in withholding surgery for two or three more weeks of close observation.

Surgery of Duodenal and Gastric Ulcers

Surgery of duodenal and gastric ulcer is such a very large subject in itself that we intend to speak only in very broad, general terms at this time.

Once a duodenal or gastric ulcer is diagnosed and indication for surgery is present, the patient should be put through a period of careful preparation for surgery. These patients frequently have low blood chlorides, low serum protein and low hepatic reserve. These factors must be controlled with intravenous saline, blood transfusions, and glucose prior to surgical attack. No patient should be operated upon for ulcer the next day after admission to the hospital unless there is an emergency present. Even in the face of an emergency, however, the same preparation should be carried out though of necessity it must be done more rapidly and perhaps to a less degree than in an elective case.

The surgical procedures used in ulcer patients are many. Fundamentally there are three general groups upon which all operations are based. These groups are:

1. Excision of ulcer.
2. Partial gastric and duodenal resection.
3. Short-circuiting operations, as gastro-jejunostomy or gastro-duodenostomy. (For simplifying things we place pyloroplasty in this latter group).

There are various modifications of the procedures and many combinations, as excisions with gastro-enterostomy or excision with pyloroplasty.

There are some surgeons who are routine operators and have a pet operation for all conditions—they are routine gastro-enterostomists, or routine resectionists, or routine "something or other." There are many variable factors which must be carefully evaluated by the surgeon who operates for pathology and not just for the fun of cutting and sewing. From a careful pre-operative study one may arrive at the type of procedure he would like to do, but final decision should not be made until the abdomen is opened and the pathology is in the surgeon's hand.

In treating acute perforation the general rule is that simple closure should be done[7], but there will be times when perforation will be associated with complete pyloric obstruction. Then it is possibly wisest also to do a gastro-enterostomy. The primary motive behind any treatment of acute perforation is the saving of life. We must not lose sight of that motive.

For chronic obstructing ulcers in the more elderly patients which are usually associated with low gastric acid, there is no operation which will compare in safety and beautiful results with gastro-jejunostomy. However, the same operation done on a younger person with recurrent obstruction from edema and high gastric acid is followed by poor results. This is explained by the fact that gastro-jejunostomy relieves the edema, the obstruction is overcome and then the food current returns to normal enhancing the likelihood of recurrent ulcer. So with an ulcer of this type, resection of the ulcer with partial gastrectomy is the most satisfactory procedure.

As a general rule it is very unwise to do a gastro-jejunostomy on a patient with a normal emptying stomach for the mechanical reason that in such cases a gastro-jejunostomy will not function. It is also unwise to do a gastro-jejunostomy on a young individual with a high gastric acid, for we know from experience that high acid levels are associated with post-operative recurrences of ulcer. So for this group of patients we advocate subtotal gastrectomy using the Polya or Polya-Balfour technique. There are times when as an extensive operation as resection is unjustified on these patients because of their poor condition. Then we advocate a two stage operation, the first stage being a Devine[8] pyloric exclusion followed at a later date by the resection of the distal two-thirds of the stomach and the ulcer.

For gastric ulcers we advocate subtotal gastric resections. Occasionally a simple excision will be done, particularly if the ulcer is high on the lesser curvature where resections would remove practically all of the stomach.

For penetrating and bleeding ulcers we advocate the one or two stage resection dependent upon the general state of the patient.

Rarely is a pyloroplasty indicated in our opinion. This operation was devised in the days when surgery was done with less well defined indications than we recognize now. It was and still is an excellent operation for an ulcer on the anterior surface of the duodenum, but we know that it is with this ulcer that medical or conservative therapy is most effective. Hence, our indications for surgery in duodenal ulcer largely exclude the use of this procedure.

The mortality rate in ulcer surgery is proportionate to the surgeon's ability to recognize the proper indications for surgery, to institute proper and adequate pre- and postoperative care and finally, to adjust the operation itself to the pathology of the patient and not attempt to fit the patient to a routine operative technique. In the hands of surgeons of this caliber the mortality will be very low particularly when we realize the magnitude of gastric and duodenal surgery.

In conclusion, I would like to re-emphasize our firm conviction in the necessity for the closest cooperation between the medical men and the surgeon in the treatment of peptic ulcer. If either specialist is incapable of or unwilling to cooperate with the other he should mark himself as unfit to manage this most interesting disease.

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611 Medical Arts Building
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Sympathetic Surgery for the General Surgeon*

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IT IS MY PURPOSE to call to your attention some of the valuable information to be gained by the more careful study of sympathetic nervous system and the correction of disturbances of this system by surgery. I earnestly hope that the general surgeon may take more interest and use successfully, as he should and could, his surgical ability for the relief of these people who are afflicted with disturbances of the human body controlled by the sympathetic nervous sytem.

It is a fact that the cerebrospinal system is concerned with the reactions of the body to external environment, and therefore more with skeletal muscle. The sympathetic system seems to be concerned with plain muscle, secreting glands, and the internal control and balance of the functions of the fluid matrix of the body. Certainly the impulses of the cerebrospinal system are not the same as those of the automatic, but there is an interlocking of the stimuli so that the former may relay to the latter some form of impulse to cause the sympathetic system to function. The primary stimuli to the sympathetic system are, heat and cold, hemorrhage, emotion, nervous tension, and strain, muscular work and such stimuli. We are all acquainted with the reaction of the human body to these stimuli: vasoconstriction, increased coagulability of the blood, increase in blood pressure, dilatation of the bronchioles, outpouring of adrenalin, erection of hairs on the skin, etc. Some of these functions are carried on at all times in a minor or major form and may become even greater in a particular emergency. It is easy to suppose that there is an antagonistic influence present at all times but which is removed entirely in the presence of a great stimulus. Is it not true then that as we live faster, work harder, move more quickly, think more, and live under more strain and stress, that we should have more difficulty in automatically adjusting our sympathetic system? We also might suppose we tire out our antagonistic control system and release our autonomic nervous system. This will cause an outpouring of adrenalin into the system or some other activity of the sympathetic system which is easily recognized. Emotional stimuli certainly aid in the stimulation of the autonomic system and therefore indicate a cerebral connection, as well as the interlocking of the spinal system with the possibility of a control center in the brain. Animal experimentation has shown this, as has it also shown the effect of hormones on the autonomic system. We are almost led to believe that the adrenal gland might hold the key to the switch which controls a highly developed and vast sympathetic nervous system. It is important to remember that the vast amount of work done by physiologists in the past to aid in the development of what we know now about the sympathetic nervous system is very worthwhile.

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*Chairman's address read before the section on Surgery, May 10, 1939, Gulfport, Miss.

I call your attention to the progress which has been made in regard to what we are learning now since the surgeon has begun to work on the sympathetic system. Such a wonderful worker as Leriche has pioneered. More accurate information is at hand from his work on humans than from any other source, due largely to his accurate observation and data recorded. It must be noted that this is a new field and things we see and believe to be true today may be changed entirely in our observations on these same patients a few short years hence.

I shall not delve into or write at length on the anatomy of the sympathetic nervous system since you may readily refer to this by careful perusal of standard texts of the present time. I believe it suffices to say that ganglionated trunks parallel the spinal column, with pre- and post-ganglionic fibers, sympathetic fibers about the blood vessels, cells in the lateral horns of grey matter in the thoracic and upper lumbar regions of the spinal cord and many fibers parallel the sensory nerves of the cerebrospinal system, as well as rami communicantes, connecting the cord with the ganglionated trunks.

It is not the purpose of the writer to go into great detail of anatomy or technique. It is his earnest desire to interest you to the point that you will begin to serve your patients better by doing some work on this system. I shall endeavor briefly to outline to you the many needs and the great advantages of surgery in some of these cases that have arisen in my personal work, and in turn hope to stimulate more interest in this type of surgery.

TREATMENT AND RESULTS

First, let me say that the methods of treatment are (1) novocaine injections of the ganglia and trunks, (2) alcoholic injections and, (3) surgical resection.

Novocaine is used universally as a diagnostic method to give the surgeon the opportunity to study the results obtained by a blockage or interruption of the nerve pathway. This method has been used repeatedly in many cases and has been known to effect a cure in some instances. I saw a cure effected in two cases of causalgia of the left median nerve recently in my work. This is explained by the repeated interruption of the synapse in the nerve pathways. Alcohol is used in cases which are border line, poor operative risks, or in cases, due to their age, we may deem it inadvisable to use the surgical approach. It may be used to replace the surgical approach and may be classified as a more ample or glorified diagnostic procedure. The surgical approach consists of ganglionectomy, ramisectomy, periarterial neurectomy, or rhizotomy. It must be stated in passing that unfortunate results have occurred following alcoholic injections in the dorsal region due to the proximity of the pleura, and in turn with injections of the gasserian ganglia due to the proximity of the dura. Where surgery is permanent the alcohol injection may be only uncertain and the novocaine injection only temporary. Certainly the injection is not as exact and no definite control of the spread of the injected fluid is maintained. Certainly a Horner's syndrome can be prevented by leaving the inferior cervical ganglion intact at surgery for relief of pain in the upper extremity, but we all know that this cannot be done by injection.

1. Disorders of Circulation.

(a) Raynaud's disease. Sympathetic ganglionectomy has been repeatedly done for this condition and almost universally pain and cyanosis is relieved. Injection of the ganglia also gives temporary relief as well, but the removal of the ganglia is advocated. Dryness of the skin usually follows and Horner's syndrome when in the upper extremity may occur, neither of which is serious. The stage of the disease is the index of the relief obtained. The earlier it is treated the better the results. It is believed that the results obtained in the lower extremities seem to be better than those of the upper.

(b) Dilatation of normal arteries. In such conditions as arthritis and paralysis of the extremity, ganglia injection or resection universally gives an increase in size of the blood vessels by a general dilatation, and where that is desired the results are excellent. This procedure has been found to relieve senile and diabetic gangrene and intermittent claudication, as well as chronic ulcers.

(c) Thrombo-angiitis obliterans in well selected cases permits relief by sympathectomy as strikingly as in Raynaud's disease. Certainly the intermittent claudication is diminished in all cases, and completely disappears in some. Of the cases reviewed and studied it was found that approximately one-fourth of those inadequately treated medically required amputation, approximately one-seventh of those receiving adequate medical treatment required it, while only one-twentieth of those treated by sympathectomy required an amputation.

(d) Arteriosclerosis, which is an occlusive vascular disease, certainly could not be expected to be relieved by any sympathetic surgery; therefore, it is necessary that it be differentially diagnosed.

(e) Trophic ulcers as associated with lesions of the spinal cord spinabifida, leprosy, or lesions and severance of the peripheral nerves can be expected to be relieved of pain in the majority of cases, and at least some relief in all cases. The dilatation occurring aids in the rapid healing of the ulcer.

(f) Angina pectoris can be relieved of its pain by resection or injection of the five upper thoracic ganglia, but the procedure is of doubtful value because the pain is the red light signal of the disease.

(g) Scleroderma is a condition which may result from a disturbance of the sympathetic nervous system and in those patients showing vasomotor disturbances an improvement in circulation and loosening and thinning of the skin may be expected to occur if the sympathectomy is carried out early in the disease.

(h) Erythrocyanosis frigida offers one condition with which sympathetic surgery gives spectacular relief.

(i) Hypertension. This condition has received an amazing amount of attention from the medical profession, particularly at the Mayo Clinic, at the Crile Clinic, by Peet and by Heuer. Each has a school of thought in the surgical approach and treatment. It is agreed by all that the surgical treatment lacks a great deal in solving the problem of treatment of hypertension. There are certain criteria which must be followed before surgery is carried out and certainly cardiac and kidney damage contraindicate this surgery. Therefore, a careful cardiac and kidney determination of their fitness, the effect of intravenous pentothal, the cold test, and various other criteria are used to eliminate the undesired patient. Certainly arteriosclerosis is a contraindication. Certain schools of thought advise the attack on the pre-ganglionic fibers, others on the postganglionic fibers of the celiac ganglion. Some are done in one and some in two stage operations. Certainly a number of years must pass before this procedure can be justified or abandoned. I should say with excellent results generally in 25% of the cases, and worthwhile results in another 25%, the continuation of this work is certainly warranted. It is believed that with more accurate methods of selecting cases the percentage of successful results will become higher, and the attack on the celiac ganglion and adrenal gland at least holds out the light of hope that the problem may be solved in the future.

(j) Thrombophlebitis. The treatment of this condition by novocaine blocking of the sympathetic ganglia and fibers has been reported by many authors, the most recent of which is the work of Ochsner, which definitely shows that this condition in either the upper or lower extremity is relieved with the associated swelling of the extremity diminishing, and usually disappearing within seven to ten days. More than one-half return to normal size in four days. This certainly offers something new in the treatment of this discouraging condition which we have not had available heretofore. The new thought that the clinical manifestations of this condition are due to a vasomotor reflex originating in the thrombosed segment seems to be well proved in the work done and reported.

II. Disorders of the Viscera.

(a) Hirschsprung's disease or megacolon. It must be remembered that sympathectomy in this condition also produces a vasodilatation of the lower extremities and this disease may involve the left half of all of the colon itself. Certainly some good results have been reported in reviewing these cases, ranging from 50 to 75% of successes.

(b) Spasmodic dysphagia. This condition has been readily relieved in many instances by the injection of the thoracic ganglia.

(c) Pain.

(1) Dysmenorrhea. Resection of the typogastric plexus, or presacral nerves, has been an operation employed frequently in conjunction with pelvic pathology for the relief of this condition. It certainly reduces uterine spasm and vasoconstriction, and this operation is imminently successful when carried out properly. It must be noted that considerable change in menstrual habits may occur, but these conditions are not serious. Certainly the correction of all pelvic pathology is a prerequisite to this procedure. Pregnancy, intercourse, and changes in bladder and bowel habits have not been noted to have been affected in any of the cases in the author's work, or that reviewed. This type of relief is considered very satisfactory and I call your attention particularly to this procedure. It should be employed in conjunction with other abdominal surgery unless the condition is of such severity, alone and with no other pathology, as to warrant an abdominal operation.

(2) Bladder pain. This condition can also be relieved when due to incurable diseases by the resection of the presacral nerve. It was used by the author in a case of carcinoma of the bladder with metastases in which the only pain-relieving drug administered to the time of death was a small amount of nembutal. It is also recommended that this procedure be followed in conditions of spasm of the neck of the bladder, congenital contraction of the lower end of the ureter and paresis of the musculature due to some nerve injury, or cord injury.

III. Other Disorders.

(a) Causalgia. This condition described by Weir Mitchell, which is a group of signs and symptoms of burning pain, hyperesthesia, and vasomotor disturbances, is most interesting. They usually appear following injury to peripheral nerves, amputation stumps, and irritative nerve lesions, most usually associated with injury to the median nerve in the arm or the internal popliteal in the leg. It usually appears in from three to six months following the nerve injury. Leriche, a pioneer in sympathetic surgery, has relieved some of these cases by periarterial neurectomy. Livingston and I have relieved some cases by repeated novocaine injections of the stellate and upper thoracic ganglia, but ganglionectomy may be necessary for the more severe type of pain, but universal relief can be offered these patients in this condition.

(b) Facial neuralgia. The typical trigeminal neuralgia may be relieved permanently by alcohol injections or section of the posterior root of the gasserian ganglion, but there are atypical cases of pain phenomena of the face which have been relieved temporarily by injections of novocaine into the inferior cervical and cervico-thoracic ganglia, and if necessary to obtain permanent relief, ganglionectomy follows.

(c) Migraine. Dandy reports a single case in which all forms of medical treatment had been tried and subtemporal decompression and ligation of the middle miningeal artery without relief, in which he removed the inferior cervical and first thoracic ganglia, followed by the entire removal of the sympathetic supply on the affected side giving immediate relief. Certainly this would only be carried out in a patient in extremis.

(d) Hyperhidrosis. In mild cases medical measures are advised entirely, but in severe cases in which the condition is termed pathological the condition of excessive sweating is stopped immediately by sympathectomy and it is only recommended in those cases which will not respond to conservative treatment.

(e) Retinitis pigmentosa. Sympathectomy and injection both, unfortunately, have not given relief in this condition as it was hoped it would do and, therefore, it is recommended that its use be discontinued.

(f) Bronchial asthma. It is noted in the review work done on the sympathetic system that the bilateral injection of novocaine in a patient in status asthmaticus was given complete relief, which should have been followed by alcoholic injection, also recommended in intractable asthma.

CONCLUSION

Your attention has been called to the autonomic nervous system with the idea of interesting you more in the conditions which are relieved by surgery on this system. Since the animal experimentation only offers us a lead in the right direction and Leriche has so ably shown us that the conditions which occur immediately following surgery on the sympathetics may not be the end results obtained in the treatment, I recommend the closer observation and study of more of these diseases which can be made to respond by surgery of the sympathetics in order that we might further our knowledge in the treatment of these conditions. A brief outline of the treatment of the many conditions of the sympathetic nervous system is given you with assurance that the author conscientiously used and tried these methods of treatment in many conditions and obtained relief for the patient with apparently intractable pain. Also, this outline and his views are shared by many men who are quite more capable than he of expressing an opinion because of their vast amount of experience.

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FAILURES IN THE CURE OF MALIGNANCY

Failures in the cure of malignancy are evident daily to all of us. Therefore, I believe it wise to remove everything that might obscure our sight in attempting to visualize the cause of failure. It is certain that most of us are well acquainted with the fact that many of these cases are silent and hard to locate early enough to cause our attention to be directed to them by the patient. On the other hand, the failure of the patient to be educated to the point of recognition of certain signs, symptoms and syndromes that are indicative of malignancy is certainly the fault of the medical profession. We should continue to endeavor to educate the public in our drive to eradicate this disease. Everyone, certainly, should be led to investigate a lump in the breast or bleeding per vagina after the menopause, as well as many other signs and symptoms too numerous to enumerate. These signs are age old and we know full well what they might mean. The public in turn should be educated to this point as well, but many people today are still allowing such conditions to go on without seeking medical advice until they present themselves too late to be cured. Repeated complete examinations at intervals will locate many of these cases before their attention can be drawn to the malignancy itself. I personally saw an authentic case of a small nodule in a breast which when removed was found to be malignant though the nodule was no larger than a pecan. This case has been well ten years and has had two pregnancies with no recurrence and the breast was not sacrificed. A parallel case was seen during the same year with a nodule in the breast which did not return for treatment until six years later, with enlarged glands in the axilla. Her chance of cure gone, she is now slowly dying of general carcinomatosis.

These parallel cases emphasize the importance of recognition and treatment early, but the patient must be educated to the danger of delay. Many patients in the past, and a few in the present day, have considered vaginal examinations unconventional until valuable time has been lost, but I am glad to say that this condition is gradually changing.

It behooves us at this time to take stock and attempt to formulate certain ideas which are universal in well governed medical centers. We must reach a common ground for the treatment of these patients. The radiologist with both x-ray and radium, should know his limitations and not assume that he can cure all cases of malignancy by his methods and the surgeon with his scalpel, cautery and electro-coagulation should realize his limitations. A common understanding must be reached by all who treat cases of malignancy. Is it not futile for the surgeon to attempt treatment of certain grade four malignancies without the aid of radium, deep x-ray therapy, and radon seeds? It is also equally, if not more futile, for the dermatologist and roentgenologist to attempt to cure grade four malignancy by the means at their disposal alone. Therefore, let us take stock and avail ourselves of what has been done in the past and attempt to cure more cases of malignancy in the future. No one surgeon, internist, roentgenologist, or any other doctor has a right to condemn a patient to the condition of malignancy without a biopsy. Certainly, no treatment should be instituted without the malignancy being graded in order to determine the plan of treatment. I believe that a cancer group when formed can treat cases of malignancy by the benefit of the ideas of all the men in the group rather than the biased opinion of one man and that with the group outlining the treatment and the careful follow-up, cases of malignancy in the future would have a better chance of becoming cured.

— L. W. L.

SOLVING THE INDIGENT PROBLEM

The medical profession has been proud of the work it has done for the indigent. It has a right to be proud of its record. There will be need for gratis work as long as we have sick people. The pull of personal responsibility causes the true physician to do more than he is paid to do, inspires him to render a service that state medicine cannot buy. But the indigent we have had and always will have with us continue to increase in number. Mass production, special privileges allowed in a democracy, and the prodigal spending of our natural resources, will make the indigent line longer as time goes on. In the larger centers where some clients are still able to pay large fees, the profession can continue for awhile to do quite a large volume of charity practice without charge and be able to maintain itself. But in the small towns and rural communities of the South where the long indigent line and the still longer semi-indigent line reduce the number willing to pay more than a mediocre stock price for medical service to a paltry few, the medical profession is faced with necessity for decision as well as the people. It is true that the problem is largely economical; it is just as true that the picture is not going to change as far as reason can determine. The base of public health work must be broadened and made more efficient. This is being done. Curative treatment must be applied to the indigent sick in the name of humanity and for the protection of all. Serious sickness of the indigent can be treated at less expense in the hospital. Some should continue to be treated in the home. With small fees at best, the profession in the country cannot continue to do an increasing amount of charity and maintain itself in keeping with the demands of society. The question squarely before us is whether we shall hire men on a salary to do the practice for the indigent or shall the profession do it at a cost price, as are the hospitals in Mississippi. The profession does not mind giving its service, but it cannot afford the expense required to apply it. We think it best not to break the relation of patient and doctor. It would seem more reasonable to pay the practitioner a price that would take care of his operating expenses and let each practitioner do his part. In opposition to this plan some claim that if we practice at a cost price for the charity, those just over the line will want the same consideration. Maybe they will. It might offer some difficulty, but we are now supposed to charge according to the ability of the client to pay. Certainly the Mayo Clinic has followed this plan, charging from nothing to one tenth of a person's income. So this argument does not seem strong enough to discard the plan. The hospital set-up we have in Mississippi offers a good plan for the distribution of this type of service. Mississippi is appropriating fifteen cents per person, less than a dollar per family. We must have funds from the national government as well as from the state. We have insisted for fifteen years that funds for the indigent should come from the national, state, and municipal units of government, and then be augmented by the church and philanthropy. Of course we are poor people. Yet the whisky bill is one hundred and fifty dollars per family in the United States yearly, and the consumption of this whisky causes at least one half our accidental injuries and deaths and one half the killings. Our major need, it would seem, is for sobriety and human integrity.

Dr. A. E. Thayer of Meridian announces the opening of a laboratory in the Threefoot Building in Meridian for the exclusive study and diagnosis of surgical tissues.

Dr. Ralph Bowen, formerly of Oklahoma City, is now located in Houston, Texas. His specialty is allergic diseases. Many will remember him when connected with the Polyclinic in Memphis. We wish him much success in his new field.

We are very grateful to all who carry courtesy cards with us.

Now, next let us hear from Dr. John Darrington of Yazoo City on how it feels to have Mississippi's first oil gusher and if he thinks the numerous wells that are sure to follow may be any drawback to satisfactory fox hunting. For his fox hunting we will be glad to offer him the privileges of the Tippah Hills in exchange for a little gasoline.

The medical profession of the Mid-South is sad in the loss of Dr. Battle Malone of Memphis. For many years he was an outstanding leader in the profession. He was a corner stone in Memphis, which continues to grow as a medical center. In medicine his judgment was sound, his heart kind, and his integrity beyond reproach. As a teacher and as a consultant he will be greatly missed. He will be as greatly missed as a citizen.

The classical Southern technique for splitting stovewood by standing erect with stovewood bolt in one hand and axe in the other, while hacking off the sticks with erect dignity without bending the back or exerting to prespiration, should give way to a safer method. We are having too many axe cuts during the stovewood months of August and September. It may be the timber is getting too tough or may be the present generation is losing the art. Anyway the hacked hand is a wound too often observed.

The untimely and accidental death of Dr. Frank Hagaman of Jackson is of deep regret to every member of the medical profession in Mississippi, as well as to many in adjoining states who knew him personally or by reputation. We knew him as a school mate. He was a splendid student, not only of application, but one of fine native ability. For twenty years he has been in practice in his home town, and his worth was recognized from the first, confidence in his surgical ability having grown steadily. He was alert and active and liberal with his time in giving to the unfortunate who could not pay. He was a man of vision and he had the practical application to realize his dreams. In general surgery and orthopedics he was standing at the very top in his state. He was revered by his fellow doctors and his leadership recognized. He always took time out to promote the general welfare in medical organization. He will be greatly missed. We shall feel his loss keenly. We deeply regret his going. The journal offers its sincere sympathy to Mrs. Hagaman and the fine young son.

In the June issue of THE MISSISSIPPI DOCTOR you will find a write-up of Dr. Charlie Mayo by Dr. John C. Henthorne of Jackson and in the August number one of Dr. Will Mayo by Dr. W. A. Evans of Aberdeen. Both discussions of the Mayo brothers and their great work are well written by men who knew. Dr. Henthorne spent much time in training at the Clinic and Dr. Evans was a close friend of both and a close observer of their work. The Mayo brothers in deed and truth set the pace in medicine for the world. They were great builders in the fundamentals of progressive medicine and experts in the application of medical information. They were not only at the top in the field of medicine, but were well informed in almost every field of human endeavor. They knew men in all their relations to life as well as the diseases attacking them. They were able in business, but at the same time humane and missionary in heart. Through the courtesy of Dr. Henthorne we have been furnished the cuts of both men and the journal is giving you their pictures which we trust you will appreciate. We thought that many doctors would be glad to have these to frame and place in their offices.

Read the program of the Mid-South which will hold its annual session in February, 1940.

We would like some interesting cases reported from the practitioner.

As far as we are concerned we will take the old Thanksgiving date. That extra week means much to a young turkey.

We are mighty glad to hear that Dr. Eugene Rosamond of Memphis, continues to improve and is expected to recover sufficiently to resume his specialty.

We are very grateful to our advertisers. Everything else being equal we will certainly thank you to trade with the firms who take space with us. By so doing you will not lose.

It is quite certain now that the annual session of the Southern Medical Association, which holds this year in Memphis, will convene November 21-24. Keep this in mind and make your plans to attend.

MEDICAL ECONOMICS

The American Medical Association, through its Bureau of Medical Economics, has recently published two brochures which should be of immense interest to those who are concerned, as most physicians are, with the changing trend of medical practice. The first of these books, "Organized Payments for Medical Services," discusses thoroughly and completely the care that is being given, first, to the indigent sick, and second, to those who are below a certain income level. Particularly interesting is the chapter which has to do with medical arrangements organized by medical societies. The principles of the plans for medical services that are working now, or have been proposed, which are postpayment or prepayment in character and sponsored by medical societies and other organizations, indicate very definitely the desire of many to cooperate in finding a solution for local medical problems. The one hundred and eighty-two pages of this book are packed with extremely valuable information which should be read by all those who are representative of the parish, county or state medical societies, and show them what has been accomplished, satisfactorily in some instances, poorly in others, by the so-called group methods of insurance payment.

"Factual Data," a pamphlet of some sixty-seven pages, should be studied by every thinking physician. Furthermore, it might be an excellent thing to leave this bulletin, teeming with facts, on your office table so that the waiting patients might see that there are adequate hospital beds in this country for the sick; that the United States exceeds all other countries in the number of physicians per unit population and, consequently there are enough physicians to take care of the population as a whole; that the death rate in this country compares favorably with that of every other nation in the world, except Australia and New Zealand; that diphtheria, nephritis, pulmonary tuberculosis and typhoid fever are diminishing diseases, while the incidence of heart disease, cancer, diabetes and appendicitis is on the increase; that maternal mortality is declining rapidly, as is infant mortality. In fact, there are so many informative diagrams, charts, tables and statements that the person can get some of this information in a few minutes by looking at the charts; or, has he more time to study the information regarding the charts, he will realize that the medical profession is going ahead actively and seriously.—NEW ORLEANS MEDICAL AND SURGICAL JOURNAL.

The Monroe County Medical Society held its monthly meeting in Amory Monday night September fourth. Except for two or three members who are on "sick leave," a full attendance was had. Several visiting physicians were present. Among them was Dr. A.J. Stacy of Tupelo. The guest speaker for the occasion was Dr. Albert C. Jackson of Jasper, Alabama. With Dr. Jackson came Dr. Waldrop also of Jasper. Dr. Waldrop for a long while has been all time health officer for Walker County (the county of which Jasper is the county seat). Dr. Jackson chose for the subject of his address "Medical Care for the Indigent." In our thinking this address presented the most reasonable and satisfactory solution of this problem that we have seen or heard. Of course we can not discuss, in detail, this splendid presentation of this important and pressing problem. This problem must be met, considered and solved, if socialized medicine is to be averted and regimented service is to be spared the members of our profession. When this regimentation shall have been accomplished, medicine shall no longer be an independent profession but a trade dominated by politicians. There will no longer be incentive for progress nor can the public expect to receive conscientious and efficient service. Dr. Jackson undertook to show(and succeeded) that an appropriation of one hundred per capita (about one hundred and thirty millions of dollars), if supplimented by one third this amount by each state (say thirty-five cents per capita) every sick person who is indigent in the nation could be adequately cared for. Mississippi has driven the entering wedge and has appropriated fifteen cents per capita to be spent in hospitalization of our indigent. Dr. Jackson's suggestion is that the sum appropriated by the federal government shall be turned over to each state according to the population of each state. He went into detail as to how this money should be safeguarded and used. One specific condition is that not more than five pen cent of the fund can be used for administration purposes. It must be remembered that Speaker Bankhead and his brother, Senator John H. Bankhead, both reside in Jasper, Dr. Jackson's home town, and while he was very careful not to involve them, he did say that he had gone into this matter with them and that they understood fully the proposition. Not long ago, we sat at a banquet table with Senator Bankhead when this question was under discussion, and heard Mr. Bankhead say that no one had more faith in nor respect for the medical profession than he, and that he felt that the doctors were more competent to solve this problem than any other body of men and that he would give most careful and respectful consideration to any plan that they might suggest to meet the crisis that now confronts the nation and the doctors of the nation. At our meeting on the fourth instant there were present four members-elect of the Mississippi legislature. They were deeply interested and expressed themselves as willing to follow us in their approach to the subject. At the close of the meeting, a resolution was unanimously adopted stating that it was the sense of our association that **not less than fifty cents** per capita should be appropriated by the next session of the Mississippi legislature to be used for medical care of the indigent. But let us not forget that **unemployment**, alone, is responsible for the present crisis and there would be no lack of medical care for any one if this situation could be remedied. If the people should be given work at a living wage the doctors would take care of the people and the people would take care of the doctors. There is ample money—idle money—in the country to employ every man who is able to work. This money should be put to work, then there would be no indigent to ask or need help. In time of danger to our country, men are drafted to face death. They are not guaranteed safety to their "investment". Why should money be more sacred than human lives? Our form of government is threatened. It is bound to blow up unless jobs are given to the millions who are now idle. Then our money will be without value. Quoting scripture, "whose then shall these things be?

—G. S. B.

The discovery of popular education as an instrument in preventive medicine, made by the pioneers in the tuberculosis movement, has proved almost as far-reaching in its results as the discovery of the germ theory of disease thirty years before. Winslow, C.-E. A., The Evolution and Significance of the Modern Public Health Campaign, Yale Press, 1923.

DR. GILRUTH DARRINGTON

The above is a likeness of Dr. Gilruth Darrington of Yazoo City, president of the Mississippi State Hospital Association. He is the son of Dr. John Darrington and the late Pauline Gilruth Darrington whose memory the medical profession of our state deeply reveres.. His father is known and loved throughout the South as a most able surgeon and a versatile man. Dr. Gilruth attended A. & M. College, was graduated in medicine from Tulane, and interned at Charity Hospital in New Orleans. He served as house surgeon at the Mississippi State Hospital at Vicksburg for several years. Since 1926 he has been associated with his father at Yazoo City. In 1933 he was married to Miss Anne Hogue of Marion, Alabama, and now they are the happy parents of two little daughters.

Dr. Gilruth Darrington is an outstanding leader among the younger men in medicine in Mississippi. An untiring student, he keeps abreast with general medicine and surgery; he possesses professional integrity, and is a delightful friend to know.

It is fitting that he be elevated to the presidency of the State Hospital Association. Hospitals has been his hobby. He grew up in one, his father having established a private sanitarium in 1898, which was later merged with the present King's Daughters Hospital. This hospital has been an outstanding leader in the different types of anesthesia.

Mississippi has a hospital set-up that in many respects is outstanding in the nation. We congratulate this hospital system in having as its head Dr. Gilruth Darrington.

DR. J. H. FRANCIS

Dr. J. H. Francis, president of the Shelby County Medical Society, who is putting in much time helping to plan the meeting for the Southern Medical Association which will meet in that city on November 21-24. Dr. Francis is an able leader in organized medicine and is rendering splendid service at the head of this local society in one of the South's greatest medical centers.

NEW COUNCILOR FROM TENNESSEE

Dr. Horton Casparis, Professor of Pediatrics, Vanderbilt University School of Medicine, Nashville, has been appointed a member of the Council of the Southern Medical Association from Tennessee to fill the unexpired term of Dr. Oliver W. Hill, Knoxville, deceased, the appointment having just been announced by the President, Dr. Walter E. Vest, Huntington, West Virginia.

Dr. Casparis has been active in the Southern Medical Association since coming to Vanderbilt in 1926, having attended every meeting since that time. He has been chairman of the Section on Pediatrics. Dr. Casparis is a native of Texas, having received his academic education there and graduating in medicine at Johns Hopkins in 1919.

PROGRAM

The Northeast Mississippi Thirteen Counties Medical Society will hold it's third quarterly meeting Tuesday, September 12, 1939 at Aberdeen, Miss., beginning at 2:00 p. m. at the City Hall.

Following the scientific program there will be a banquet given at the Parkway Hotel for the doctors and their wives at 6:00 p. m.

Meeting called to order by the president—Dr. J. W. Lipscomb.

Invocation by Rev. E. R. Smoot, pastor of the Methodist church.

Reading and adoption of minutes of last meeting.

"Migraine: Its Present Day Concept and Treatment"—Dr. J. A. Watt, Aberdeen.

"Prenatal Care"—Dr. C. F. Gilbert, Corinth.

"Feeding a Normal Infant"—Dr. Luther L. McDougal, Jr., Paris, Texas.

Hemorrhoidectomy, Essentials in the Prevention of Postoperative Pain"—Dr. Cecil D. Gaston Birmingham.

BOOK REVIEWS

Principles of Chemistry. By Joseph H. Roe, Ph.D., Professor of Biochemistry, School of Medicine, George Washington University. Cloth. Price; 3.00. Pp. 503, with 53 illustrations and 5 color plates. Published by C. V. Mosby Co., St. Louis, fifth edition, 1939.

This chemistry text has proved satisfactory, especially in schools of nursing. Because it is simply written, it is extremely understandable. The experiments selected do not require complicated apparatus or expert technique for impressive results. The author followed a definite plan in presenting material prepared for the book: first, the fundamental principles of inorganic chemistry; second, organic chemistry, brief but giving the student a background for physiological chemistry; third, physiological and clinical chemistry, treating carbohydrates, proteins and fats, digestion, metabolism, nutrition, the physiological effects of vitamins and hormones, excretion of waste, and chemical basis for diseased conditions in detail; fourth, experiments to supplement theoretical work and to train in laboratory technique. The text also includes radioactivity, water balance, hydrogen ion concentration and improved features that will continue to insure its value and extreme suitability as a textbook.

EYE, EAR, NOSE AND THROAT MANUAL FOR NURSES. By Roy M. Parkinson, M.D., F.A.C.S., Head Oculist and Aurist to St. Joseph's Hospital, San Francisco, Calif. Cloth. Price, $2.25. Pp. 243, with 79 illustrations. Published by C. V. Mosby Co., St. Louis, fourth edition, 1939.

Printed on the new eye-conditioned book paper that Mosby is using in many of its publications, this book is brought up-to-date in a fourth edition. The material is maintained in its usual condensed and brief form, ideally suited for classroom work. Each lesson is followed by a quiz that covers the subject.

Following the general presentation of conditions encountered in eye, ear, nose and throat cases, is a part devoted to operating room technic, and another part which discusses the problems of the public health nurse.

All the details, illustrations and points necessary for intelligent co-operation from the nurses are included; technical discussions belonging to the physician's text are omitted. The book is standard textbook size.

MICROBIOLOGY AND PATHOLOGY by Charles F. Carter, B. S., M.D., director, Carter's Clinical Laboratory, Dallas, Texas. Cloth. Price $3.25. Pp. 755, 165 text illustrations and 25 color plates. Published by C. V. Mosby Co., St. Louis, second edition, 1939.

This is the best presentation of microbiology and pathology we know of for nurses. The scope of knowledge reaches far beyond the average bacteriology for nurses. The nurse soon realizes the great breadth offered the student in this field. She discovers that microbes play an important role in the processes of nature, in agriculture and in industry, as well as in disease. But the medical lessons on how microbes enter the body, how the body resists them, why they sometimes cause disease and other times do not, are strongly impressed. The scientific bases of immunity, vaccine therapy and serum therapy are fully explained. Bacteriology of water and milk and special bacteriology fall in separate sections. The remainder of the book is devoted to pathology. Questions, true and false quizzes, and laboratory exercises are included to drive home the facts presented.

GRANTED LICENSES

Twenty-one new physicians and sixteen out-of-state physicians were granted licenses to practice in Mississippi by the State Board of Health during the meeting of the Board June 21-23.

Those passing Board examinations successfully are the following:

Dr. Rome Turner Dabbs, Verona; Dr. James Barclay Donaldson, Jackson; Dr. Charles Fleming Dorsey, Jackson; Dr. Hiram Robert Elliott, Jr., Courtland; Dr. John Pleasant Fatherree, Jackson; Dr. Rowland William Hall, Jr., Clinton; Dr. Thomas Lang Harvey, Mathiston; Dr. Albert Francis Inclan, New Orleans, La.; Dr. Charles Marion Lobrano, Centreville; Dr. Geo. Harris Martin, Anguilla; Dr. Geo. Seale Mason, Lumberton; Dr. Hick Hartsell McClanahan, Jr., Columbus; Dr. Thomas Frederick McDonnell, Jackson; Dr. Thomas Enoch McKell, West Point; Dr. Geo. John Mitchell, Meridian; Dr. Modena Hodges Peterson, Wesson; Dr. Bob Ford Thompson, Columbia; Dr. Charles Watkins, Shaw; Dr. Joseph Crawford Wilson, Hollandale; Dr. Claude Frank Yates, Philadelphia; Dr. Isaac Emile Lobrano, Centreville.

Out-of-state physicians granted licenses on reciprocity are the following:

Dr. Walter Louis Alspach, Texas to Pascagoula; Dr. James Thomas Doster, Jr., Pennsylvania to Columbus; Dr. Eugene Thomas Ellison, Tennessee to Hernando; Dr. George Oxford Gunter, Georgia to Gulfport; Dr. Hugh Buren Henry, Arkansas to Biloxi; Dr. John Howard Hines, Georgia to Canton; Dr. George Ernest Holder, Tennessee to Laurel; Dr. Pearce Sherwood Johnson, Louisiana to Caledonia; Dr. James Homer Leigh, Tennessee to Philadelphia; Dr. Irvin S. Miller, Virginia to Gulfport; Dr. Thomas Lon Owings, Alabama to Poplarville; Dr. Frank Lewis Ramsay, Tennessee to Laurel; Dr. Thomas Roge Simpson, Alabama to Stonewall; Dr. John Julian Stone, Georgia to Meridian; Dr. James Andrew Watt, Colorado to Aberdeen.

The Board also confirmed the appointment of the following full-time health officers who have been elected since the last meeting of the Board:

Dr. J. H. Armstrong, Lafayette; Dr. E. M. Butler, Union; Dr. T. K. Chandler, Jr., Tunica; Dr. J. W. Dorman, Marshall; Dr. J. W. Evans, Jr., DeSoto; Dr. N. C. Knight, Lauderdale; Dr. R. J. Jones, Southeastern District; Dr. Guy R. Post, Coahoma; and Dr. J. A. Sproles, Jr., Amite.

Mississippi State Medical Association

Organized in 1867 **Next Meeting: May, 1940, Jackson.**

OFFICERS

President—J. Percy Wall, Jackson
President-Elect—W. H. Anderson, Booneville
Vice-Presidents—Hugh Johnston, Vicksburg
R. B. Austin, Forest
B. T. Robinson, New Augusta

Secretary—T. M. Dye, Clarksdale
Editor—Lawrence W. Long, Jackson
Historian—Leon S. Lippincott, Vicksburg
Speaker—J. Rice Williams, Houston
Treasurer—E. Leroy Wilkins, Clarksdale

COUNCIL

First District—J. W. Lucas, Moorhead
Second District—L. L. Minor, Rt. 4, Memphis, Tenn.
Third District—R. B. Caldwell, Baldwyn
Fourth District—J. K. Avent, Grenada
Fifth District—Lawrence W. Long, Jackson
Sixth District—H. Lowrey Rush, Meridian
Seventh District—J. P. Culpepper, Hattiesburg
Eighth District—W. H. Frizell, Brookhaven
Ninth District—D. J. Williams, Gulfport

COMMITTEES

Program:
Surgery—Edwin Benoist, Natchez
Hygiene and Public Health—E. W. Noblin, Sr., Jackson
Medicine—Ira Seale, Holly Springs
E. E. N. and T.—E Staton, Columbus

Anti-Barbiturate:
J. M. Acker, Aberdeen
J. Gould Gardner, Columbia
L. S. Lippincott, Vicksburg
B. J. Marshall, Whitfield
E. LeRoy Wilkins, Clarksdale

Public Policy and Legislation:
Felix J. Underwood, Jackson
Henry Boswell, Sanatorium
W. H. Anderson, Booneville

Charity Hospitals:
J. C. Culley, Oxford
W. W. Crawford, Hattiesburg
John Darrington, Yazoo City
B. B. Martin, Vicksburg
H. R. Shands, Jackson

COMPONENT SOCIETIES

County Society	President	Secretary-Editor	Time of Meeting
Adams	James C. Rice, Natchez	Fred Geisenberger, Natchez	Third Tues. 7:30 p. m.
Amite	W. S. Stewart, Osyka	H. A. Butler, Liberty	Second Thur. 7:80 p. m.
Central Medical	Frank Hagaman, Jackson	H. C. Ricks, Jackson	First Tue. 7:30 p. m, Omit July and Aug.
Claiborne		G. W. Acker, Port Gibson	
Clarksdale and Six	W. H. Williams, Tunica	E. Leroy Wilkins, Clarksdale	Fth. Wed. March and Sec. Wed. Nov.
Clarke-Wayne	W. P. Gray, Waynesboro	Albert Hand, Shubuta	
Coahoma	D. H. Griffin, Clarksdale	Julius L. Levy, Clarksdale	
Coast Counties	F. O. Schmidt, Ocean Springs	D. L. Hollis, Biloxi	
Delta Medical	G. Y. Gillespie, Greenwood	F. M. Acree, Greenville	Sec. Wed. Apr. and Oct. 2 p. m.
DeSoto	Henry M. Wadsworth, Hernando	L. L. Minor, Memphis, Rt. 4	
East Mississippi	C. H. Harrison, Philadelphia	Guy T. Vise, Meridian	
Franklin	C. A. Everett, Bude	L. Costley, Meadville	
Issa-Shar-Warren	Walter E. Johnston, Vicksburg	Alston Callahan, Vicksburg	
Jefferson	C. R. Senter, Byhalia	Herbert Phillips, Holly Springs	Second Thursday
Marshall		W. T. Harper, Fayette	
Newton	W. L. Henton, Decatur	Dudley Stennis, Newton	
North Mississippi	C M. Speck, New Albany	A. H. Little, Oxford	Third Wed., Jan. Apr. Jul. Oct.
Northeast Miss.	J. W. Lipscomb, Columbus	A. J. Stacy, Tupelo	Sec. Tue., Mch. Jun. Sep. Dec.
Pike	E. M. Givens, McComb	T. Paul Haney, Jr., McComb	First Thursday
Pontotoc	J. H. Windham, Ecru	E. B. Burns, Pontotoc	
South Mississippi		Van C. Temple, Hattieburg	
Sunflower		H. B. Cottrell, Indianola	
Tallahatchie	G. Lacy Biles, Sumner	J. E. Powell, Charleston	
Tate	W. D. Smith, Senatobia	J. S. Eason, Coldwater	Second Wednesday
Cop.-Law.-Lin.-Wal.	R. S. Savage, Brookhaven	R. B. Zeller, Hazlehurst	Sec. Tue. Mar. Apr. Jun. Dec.
Webster	E. T. Arnold, Bellefontaine	H. K. Curry, Eupora	
Wilkinson	C. E. Catchings, Woodville	E. M. Butler, Centerville	
Winona District		S. B. Caruthers, Grenada	

Interpreting Medical Literature

STAFF OF REVIEW

Dermatology—James G. Thompson, Jackson.

Eye, Ear, Nose and Throat—Alston Callahan, Vicksburg.

Obstetrics and Gynecology—J. W. Lucas, Greenwood.

Orthopedics—Thomas H. Blake, Jackson.

Pathology and Clinical Pathology—John C. Henthorne, Jackson.

Pediatrics—Harvey F. Garrison, Jackson.

Public Health—Felix J. Underwood, Jackson.

Radiology and Roentgenology—Karl O. Stingily, Meridian.

Surgery—John Culley, Oxford.

Urology—Temple Ainsworth, Jackson.

Discussion and comments are invited.

DERMATOLOGY

Since sulfanilamide has become, or is, quite popular in the treatment of all sorts of conditions ranging from lymphogranuloma inguinale to impetigo, this article shall be devoted to sulfanilamide in the treatment of various dermatological conditions.

Doctor John F. Wilson of Minneapolis attempted to treat a case of acute disseminated lupus erythematosus in a white woman, age 31 years with well controlled administration of sulfanilamide in which the blood level of sulfanilamide was kept above 10 mg. per hundred cubic centimeters of blood during the treatment, and the patient died four days after the treatment was discontinued. The reason for giving the sulfanilamide was that beta hemolytic streptococcus was cultured from the lesions on upper lip, chin, and hands.

Conclusion: Failure with well controlled administration.

(Archives of Dermatology and Syphilology, Vol. 40, No. 2, P. 241.)

Sulfanilamide in Treatment of Pyogenic Dermatoses.—

Pyodermas: Two cases of impetigo contagiosa neonatorum were successfully treated. One child was 10 days old and the other was eleven days old. The dosage was one grain three times each day. Six cases of secondary pyogenic dermatoses in patients from four years to 38 years of age were treated successfully. Four cases of sycosis vulgaris of long duration were treated successfully.

Comment: The late Walter Highman left as a heritage the therapeutic thought that powerful internal remedies ought not to be used to combat dermatoses amenable to treatment by local applications.

With this concept of dermatologic therapeutics we are in hearty accord. We neither practice nor advise the use of sulfanilamide for the milder types of pyoderma. As a result of our trial of sulfanilamide, we are convinced that this remedy has a distinct field of usefulness for pyodermas which may be fatal, those with a constitutional reaction and a rapid spread and chronic types for which the usual measures are without avail.

(Albert Strickler, M. D., Maurice J. Stone, M. D., Philadelphia. Archives of Dermatology and Syphilology, Vol. 40, No. 2, P. 244).

Impetigo Herpetiformis — Report of successful treatment with sulfanilamide.

Louis John Frank, M. D., Sioux City Iowa, reports on one case of impetigo herpetoformis treated by him that cleared up rapidly with the use of sulfanilamide. This patient was pregnant and had a premature labor at which twin girls were born. She also had bronchopneumonia and cardiac enlargement. No work was done to determine whether the patient had a parathyroid disturbance, nor what the blood calcium level was. The patient received in addition to the sulfanilamide, two intravenous injections of dextrose, phenobarbital and liver extract by mouth, and calamine lotion locally.

Note: In view of the fact that impetigo herpetiformis is very rare, if one is to judge by the number of cases reported in the periodicals, there is some reason to believe that this case could have been herpes gestationis, or that cases of impetigo herpetiformis (Hebra) are being called something else and reported that way. —J. G. T.

(Archives of Dermatology and Syphilology Vol. 40, No. 2, P. 253).

PATHOLOGY

THE PRACTICE OF CLINICAL PATHOLOGY IN RELATION TO MEDICAL ECONOMICS, T. B. Magath, Am. J. Clin. Pth., 9:381-396 (July) 1939.—(Presidential address).

The presidential address before the American Society of Clinical Pathologists customarily deals with medical economics of the specialty. There are three main economic problems which confront pathologists today which can only have a profound bearing on other medical fields. The first problem discussed is that of the relation between State Board of Health laboratories to practitioners of clinical pathology.

Since pathology as a medical specialty is but forty years old in this country there can be little doubt that boards of health started laboratory service long before it was available from private sources. At present, state departments have kept pace with modern developments and the amount of their laboratory investigation and diagnosis has expanded to such an extent that in many states few, if any, private practitioners of laboratory medicine can exist. In Minnesota, for example, the state laboratory does so much that no private pathologist can exist outside of large hospitals or clinics. Since there are no pathologists in private practice, the state board is forced to continue this service; a vicious circle.

Supplying pathologists to cover the work of the country on a private practice basis is at present and for years to come an impossibility. Pathologists in no state have worked out a complete scheme for taking care in private laboratories of all work needed at a price the public can pay.

Hospital laboratories have been considered in a gradually changing point of view by hospitals and communities. In too many instances hospitals are engaged in the practice of medicine in that diagnosis and treatment is performed by technicians through the laboratories. It is obvious from examination of statistics that too often the services so provided by hospitals depend upon unskilled technicians.

There are 6,166 hospitals approved by the American Medical Association. There are probably not more than 900 physicians trained in pathology in the United States and of these 200 are in teaching or research positions. This leaves 700 pathologists for more than 6,000 approved hospitals to say nothing of the unapproved ones; a ratio of about 1:8.

As a passing thought it may be interesting to recall the conditions for approval of hospitals as set down by the A. M. A. "A physician-pathologist qualified by training and experience to supervise the laboratory service and interpret tissue pathology should be employed on a full-time or part-time basis. When this is not practicable, arrangements should be made with a consulting pathologist for tissue diagnosis, post-mortem work and the interpretation of the more complicated tests and determinations in clinical and surgical pathology as well as in general clinical laboratory work. Preferably the pathologist should be a physician, preferably a diplomat of the American Board of Pathology." It is difficult to understand how many institutions have been approved by the American College of Surgeons without this requirement having been met. In 1939 there were only 4,673 departments of pathology in the 6,166 approved hospitals and these were directed by only 3,601 medical graduates. Only about one-fifth of these have qualifications equal to those required for certification by the American Board of Pathology.

A set of agreements has been drawn up to attempt a practical solution to the relationship of pathologists and hospitals, the meat of which follows: "Hospital services in pathology and other branches of laboratory work should be organized as a department, under the direction of one or more competent pathologists who should be responsible for all the laboratory services of the hospital. Such a chief or chiefs of department should be a physician and wherever possible, should be one who is a qualified specialist in pathology, preferably a diplomate of the American Board of Pathology. If because of the size or isolation of the hospital or for other reasons, a qualified pathologist is not available locally, some member of the general medical staff, trained in pathology or paying particular attention to the subject, should be appointed in immediate charge of the department. Under these conditions a consultation service should be arranged for the department with a qualified pathologist or with another hospital, or agency in which a qualified pathologist is in charge of the laboratory service."

The problem of who is qualified to practice clinical pathology should be well on the road to solution by the Board of Pathology through which only 689 pathologists have qualified to date. Two groups of persons who practice clinical pathology are grossly unqualified; namely, physicians not trained in pathology, and laymen. Regarding the latter group, the State Board of Medical Education and Licensure of Pennsylvania has ruled that to operate a clinical laboratory is to practice medicine, and one must obtain a medical license. The Chemical Society challenged this ruling. In 1930 the Council on Medical Education and Hospitals published the following rules concerning clinical laboratories: "The director of an approved clinical laboratory should be a graduate of an acceptable college or university of recognized standing, indicating proper educational attainments. He shall have specialized in clinical pathology, bacteriology, pathology, chemistry, or other allied subjects for at least three years subsequent to graduation. He must be a man of good standing in his profession." In 1936 the Council "deprecated" the operation of clinical laboratories under lay direction.

The fundamental question is this: Is the practice of pathology a part of the practice of medicine? By no means other than by laboratory procedures can diagnosis be established of blood diseases, parasitic infestations and a host of other diseases. In the absence of clinical findings, discovery of leprosy or tuberculosis bacilli established important diagnosis. Tissue diagnosis is frequently unpredictable by the clinician or surgeon. In brief, the clinical laboratory is a diagnostic agency, and must furnish competent medical consultation. Furthermore, the clinical laboratory must obtain material for analysis by surgical procedure (such as venipuncture), and must protect its patients by being included in the "privileged communications" law.

The American Society of Clinical Pathology encourages the clinical chemist or bacteriologist to take his definitely established place in the clinical laboratory, but only under the supervision of a licensed physician who has been especially trained in laboratory medicine.

The only way this whole matter may be successfully solved is to educate the clinicians and surgeons to the importance of protecting their own reputations and the health of their patients by seeing to it that the laboratory procedures which they order are executed under the supervision of a competent pathologist. However, pathologists must assume the all important task of providing sufficient numbers of well trained medical graduates to do the work.

PEDIATRICS

Treatment of the Hemorrhagic in Jaundice, with Special Reference to Vitamin K., Albert M. Snell, Hugh R. Butt, and Osterberg, American Journal of Digestive Diseases, 5:590, November, 1938).—

"Evidence has been presented to show that oral administration of a fat soluble vitamin and bile salts will increase the concentration of prothrombin and thereby reduce the clotting time of the blood, as measured by both the direct and indirect methods. It appears that the vitamin alone will not accomplish this result if bile is excluded from the intestine, while bile or bile salts have some definite effect, presumably because these substances facilitate absorption of the vitamin which is already present in the intestinal tract. The question naturally arises as to why bile alone cannot be used in the preoperative and postoperative treatment. The first reason is, of course, that the prothrombin time may continue to rise postoperatively, even when bile is flowing freely into the intestine. As Warner, Brinkhous and Smith have shown, the administration of vitamin K greatly accelerates the restoration of prothrombin in such cases. The second is the inadequate food intake which is common to most jaundiced patients and which may of itself lead to depletion of the amount of vitamin K in the digestive tract. The third factor has to do with the ability of the liver itself to convert the protective material into prothrombin. There is considerable clinical laws governing mass action are operative in this connection. A good deal of future experience will be needed before a definite statement as to the indications for and the limitations of this treatment can be established, but for the present it may be said that it offers considerable hope for the ultimate control of the hemorrhagic diathesis in jaundiced persons."

Tuberculin Survey, A. E. Meller, and R. H. Kampmeir, American Review of Tuberculosis, 39:657, May, 1939.—

"1. The incidence of tuberculosis infection in 555 medical students in the School of Medicine of Vanderbilt University, as determined by positive tuberculin reactions to either 0.01, 0.1 or 1.0 mg. of old tuberculin was found to be 60% at the time of their admission to the medical school. 2. The incidence of positive tuberculin reactions in a group of 198 student nurses in the School of Nursing of Vanderbilt University, who were studied in a similar way, was found to be 54%. 3. Eighty per cent of the medical students and 90% of the student nurses resided in the Southern states prior to entering Vanderbilt University. 4. During the professional course, the total incidence of tuberculin infection increased from 60 to 95.5% among medical students and from 54 to 58% among the student nurses. 5. Twenty-one of the 102 medical students who gave positive tuberculin tests on admission to the medical school and who were subsequently retested became negative to 1.0 mg. of old tuberculin. Nine of the 37 student nurses who gave positive tuberculin tests on admission to the nursing school subsequently became negative to 1.0 mg. of old tuberculin."

With the addition of vitamin K to our armamentarium, we can feel somewhat more comfortable in the goodly number of our hemorrhagic cases. We therefore feel that the abstract on this subject is timely.

The prevalence of a positive tuberculin in the medical students at Vanderbilt University is interesting and instructive. Most of us would perhaps pick up a few more cases of childhood tuberculosis if we would make use of the Mantoux test more than we do.

— H. F. G.

PUBLIC HEALTH NEWS

Mississippi has 1436 physicians of whom 1381 are white and 55 colored to a new roster prepared by the State Board of Health. A copy has been sent to every physician in the state. For the first time this list is printed and is now available in a convenient, pocket-size edition. Physicians are listed by county, city, and where indicated, by street or building address. Hinds County has the greatest number of physicians with 125, Harrison County next with 62, and Lauderdale next with 57. Issaquena County has two physicians, Green County has three, and Benton, Jefferson, Stone, and Wilkinson five each.

Of interest to Mississippi physicians is the high public health post attained by a native of the state. Dr. Charles V. Akin, formerly of Meridian, has been appointed Assistant Surgeon General of the United States Public Health Service, in charge of the Division of Sanitation Reports and Statistics. As director of this division, he will supervise collecting and publishing information regarding the prevalence and geographic distribution of diseases dangerous to public health in the United States and foreign countries. He will supervise also public health education and the general publications program of the United States Public Health Service.

Chief Quarantine Officer of the Port of New York, prior to his present appointment, Dr. Akin has been a medical officer of the Public Health Service for the past twenty-five years. He graduated from Tulane Medical School in 1911 and entered the Public Health Service in 1914. His first assignment was at the Marine Hospital in New Orleans. During the World War he was engaged in epidemiological work in connection with army camps and won recognition for his work in meningitis and typhoid fever control. After the war he was active in child health work in Florida and later in special venereal disease control activities in South Carolina.

In 1931 he conducted special nutrition studies in connection with the efforts of the United States Public Health Service to combat pellagra. Later he served as Chief Quarantine Officer for the Panama Canal Zone, then as Chief Quarantine Officer for the Port of New York, prior to his present appointment.

The growing value of moving picture films as a means of health education was demonstrated in two requests received by the State Board of Health during the past month.

First, Dr. Felix J. Underwood was asked to serve on an advisory committee to assist in the production of an educational syphilis movie. The film is made possible by a basic grant from the Rockefeller Foundation, and will be produced in Hollywood under the direction of Donald Sleisinger.

Mr. Sleisinger is Executive Director of the American Film Center, an organization made possible by the Rockefeller Foundation for assistance with educational films. The advisory committee will meet soon in either New York or Los Angeles to make plans for the film, which will be used throughout the United States as part of the educational drive to stamp out syphilis.

The second request came from the United States Public Health Service, asking permission to photograph various types of malaria control projects in Mississippi. In a recent trip to projects in Mississippi, J. L. Robertson, Jr., Sanitary Engineer with the United States Public Health Service at Memphis, said that more progress has been shown in this state and in West Tennessee than in any other area, according to facilities available. Most of the malaria "shots" probably will be made at Meridian, where four types of projects have been set up—open earth, invert, French drain, and filling.

This film will be used by malaria control field workers both in educational work and training courses.

Quitman County voted in favor of a full-time health department by an overwhelming majority in the first primary election. Efforts toward such an organization have been exerted for some time by the present health officer, Dr. A. C. Covington, and by the State Board of Health. Dr. Felix J. Underwood spoke to a group of approximately five hundred citizens at Marks, the county seat, the Saturday prior to the election. Following a similiar vote, Lafayette County was able to start operation of its health department in less than four months' time.

New health officer trainees in the state are announced by Dr. J. A. Milne, Director of County Health Work, as the following: Dr. Everett W. Ryan of Ambrosia, Missouri; Dr. Robert Henry Bostwick, Jr. of Indianola; and Dr. Raymond F. Mayer of Pomaria, South Carolina.

Dr. Ryan received his M. D. degree in

1934 at the University of Louisville, completed one year's internship at Louisville City Hospital, served three years as medical officer in CCC camp, and two years as medical officer at the Fort Riley, Kansas Station Hospital. He is now stationed in Lee County where he is observing public health practice.

After receiving his M. D. degree at Emory University in 1934, Dr. Bostwick completed one year's internship at Robert G. Green Memorial Hospital, San Antonio, Texas and did four years general practice in Mississippi. He is studying public health activities in Coahoma County.

Dr. Mayer graduated from Tulane Medical School in 1938 and completed one year's internship at Emory University Hospital. He was employed as a health officer trainee by the State Board of Health on July 16, and placed in Sunflower County to observe the public health program.

Dr. H. B. Cottrell, Supervisor of Field Unit, and Dr. N. C. Knight, Director of the Lauderdale County Health Department, spent the period from July 15 to August 15 on travel scholarships provided by the Commonwealth Fund. Observing public health procedures first at the Kellogg Foundation, Battle Creek, Michigan, these physicians later visited health departments in New York, Massachusetts, and Tennessee.

The Division of Vital Statistics has been able to show many false registrations for voting age during the recent weeks. Birth registration is assuming added importance with each passing year in view of the need for legal means of checking the ages of voters, would-be brides and grooms, children who come under working laws, boys of football teams, CCC enrollees, and many others.

In view of the value of accessible birth records, the Division of Vital Statistics is sponsoring a WPA project whereby a book of births for the past twenty-six years is being compiled for each of the 82 counties in the state. These books are arranged by the year according to alphabet and when completed will be presented to county chancery clerks.

Dr. George E. Riley, assistant epidemiologist, reports a decided increase in typhus fever cases this year and requests that physicians be on the look-out for this disease. Already more than twenty cases have been reported and the state has just entered the regular typhus fever season. Last year's entire total was forty-four cases of this disease.

Visitors to the State Board of Health during recent weeks included Dr. LeRoy D. Fothergill, Harvard Medical School, Boston, Massachusetts; Miss Kate Fulton, Regional Chief, Community and Family Services, Farm Security Administration, Little Rock, Arkansas; J. A. McLeod, Sanitation Consultant, United States Public Health Service, New Orleans, Louisiana; Dr. J. R. Heller, Regional Consultant, United States Public Health Service, New Orleans, Louisiana; Miss Lula K. Wolf, Vanderbilt University School of Nursing, Nashville, Tennessee; Mrs. Ethel Lindlay, Bi-County Health Unit, Uvalde, Texas; Dr. Dorothy Boulding Ferebee, Alpha Kappa Health Unit, Washington, D. C.; and Ida L. Jackson, Alpha Kappa Alpha Health Unit, Oakland, California.

Two representatives of the United States Public Health and WPA went on a six day inspection tour of malaria control drainage projects in Mississippi, July 24-29. J. L. Robertson, Jr., Regional Sanitary Engineer, and W. V. Parker, Engineering Aide, both from Memphis, represented the United States Public Health Service, while Nelson H. Rector, Assistant State Sanitary Engineer, represented the State Board of Health. The purpose of the tour was to view at firsthand, work being sponsored by the Board of Health in malaria control. Two field men of six districts accompanied the visiting inspectors. Each evening persons making the tour met in a designated spot and discussed the program.

Malaria control projects have been operated in 118 communities and 63 counties in Mississippi since May, 1936. The main objective of these projects is to eradicate mosquitoes, but as by-products the communities are most beautiful, healthier, and more liveable.

After concluding the tour, Mr. Robertson commended the high quality and large quantity of permanent drainage in Mississippi. The permanent drainage program of Mississippi and west Tennessee is making history, he said, and is the most extensive in the world.

Pointing out the need for "eternal vigilance" with regard to smallpox, Dr. A. L. Gray, Director of Preventable Disease Control, said that 111 cases of this disease were reported in Mississippi last year, and 15,000 cases in the United States.

Latest worldwide figures show that with the exception of India the United States leads all other nations in the world in the number of cases of smallpox reported. England and Wales with a population of almost 41,000,000 reported only 12 cases in 1937 and Germany with a population of almost 67,000,000 reported none.

In view of the care with which this disease is controlled by vaccination, Dr. Gray requests the assistance of the medical profession in keeping all patients immunized every five years.

THE METHOD USED FOR REPORTING THE SEROLOGICAL REACTIONS FOR SYPHILIS IN THE MISSISSIPPI HYGIENIC LABORATORY

By Inez Townsend and Mr. Gordon R. Reeves

The method used for reporting the serological reactions for syphilis has been a good subject for argument since the day the Wassermann reaction was used to help diagnose syphilis. For a number of years the results of Wassermann tests were reported as strongly positive, moderately positive, weakly positive, doubtful, and negative. As flocculation tests began to be used to detect syphilis the same terminology was adopted. The terms became widely known in the serology of syphilis.

Recently, however, the Committee on the Evaluation of Serodiagnostic Tests for Syphilis of the United States Public Health Service, cooperating with the American Society of Clinical Pathologists, has advocated reporting the results of all serum tests for syphilis as "positive", "doubtful", and "negative." Under this plan all definitely positive reactions are reported merely as positive, while weaker reactions are reported merely as doubtful, and of course those with no reaction as negative. This plan seems to be more satisfactory than the older method because all physicians, even those who know little about syphilis, can understand the report.

The Mississippi Hygienic Laboratory has used a complement fixation reaction together with a flocculation test for the serodiagnosis of syphilis for a number of years. These tests were performed on all specimens and both results were reported to the physician. The tests were read as to the degree of positivity of each syphilitic specimen; that is, the flocculation and Wassermann tests were read beginning with negative, no flocculi present; plus one very small amount of flocculi; plus one, an increase in flocculi; these are in reality doubtful reactions or weakly positive; plus two, and plus three, a large amount of flocculi present. The latter two readings are positive reactions. The degree of positivity supposedly indicated the intensity of the infection.

It is definitely known that a person with enough reagin present in his blood serum to give a positive serological reaction with a sensitive and specific technic, complement-fixation or flocculation, should be treated for syphilis, disregarding a reagin titer of 84, or a plus two, plus three or plus four reaction. This holds true in all cases; however, on the other hand the degree to which a person is infected can be somewhat determined quantitatively to report the reagin titer to the physician as an aid to him in checking up on the treatment which he is administering to the patient. The Mississippi Hygienic Laboratory does not perform quantitative serological tests, because we believe it is unnecessary from a public health standpoint.

In July 1938 our laboratory changed the routine of examining blood specimens for syphilis. Instead of performing a Wassermann reaction on all specimens the negatives were excluded with the Kline Exclusion slide test. The Kline Diagnostic test and Noguchi's Modified Wassermann test were performed on all positives. The Noguchi Modified Wassermann has been replaced recently with the more sensitive yet specific Eagle Wassermann technic. The laboratory also changed from the old method of reporting results as to the degree of positivity to the method which the committee on the Evaluation of Serodiagnostic Tests for Syphilis of the United States Public Health Service recommended, that being as already stated positive, doubtful, and negative. Positive means that, according to the reaction of the technic used, reagin is present in the blood sera after excluding the possibility of false positive, either biologic or because of technical error. Doubtful reactions require a repeated test, and if necessary in another laboratory. If doubtful reports continue one must consider the fact there must be something in the patient's blood sera to give the weak or doubtful reaction. The physician must decide, as the laboratory does not diagnose. A doubtful report may seem weakly positive if the patient had syphilis, and has been taking treatment, or it may be indicative of an early case of syphilis. A physician should never make a diagnosis from laboratory findings alone without the other facts about this patient which are the real basis of the practice of medicine.

At this point the interpretation of conflicting serological reports should be mentioned, because it is not a rarity that such discrepant results occur especially when different tests are performed on the same specimen. Repeat the test in the same laboratory first to make certain the error is not of a technical nature. It seems that the flocculation and precipitation tests are slightly more sensitive, yet specific, than the most sensitive

Wassermann reactions. It must be remembered however that daily fluctuations are possible with the same patient's blood serum. After biologic and technical errors have been excluded it must be accepted that the fluctuation in the results is probably abscribed solely to fluctuations in the sensitivity of the test, or the actual reagin content of the serum varies spontaneously within the time involved.

Dr. John A. Kolmer of Temple Medical School, Philadelphia, Pennsylvania, and the author of the Kolmer Wassermann technic differs a little in opinion from the recent method adopted by the United States Public Health Service in that he says the positive report should be broken up into strongly positive and weakly positive. His reasons for this were from a clinical standpoint, and he believes that it would be an aid to the clinician in checking up treatment if it has been administered to the patient.

It seems that the positive, doubtful, and negative method of reporting results of serological reactions for syphilis should be used by all Public Health laboratories since it has gained wide recognition and has been favorably approved by nearly all practicing physicians and clinicians. The reports are to the point and everyone involved can interpret the meaning of them.

DeSOTO COUNTY

Some doctors do write rather illegibly, as do other groups of men. It has been said that the honorable Horace Greeley wrote a horrible hand compared with the characteristic hen scratch. The Edinburgh Dispatch reports that the judges were unable to read the signature of the successful architect for the new Dundee art college and recalls the classic story relating to a medical man's prescription:

After receiving the medicine, the patient used the prescription for years as a railway pass, twice as an invitation to a dance, once as an invitation to a society wedding, and later as a letter from his employer instructing the cashier to raise his salary. And in the evenings his daughter played it over on the piano.

The discovery by William Harvey (1578-1657), of Folkestone, England, published 1628, that the heart is the center of the circulation of the blood, and that all blood must return to the heart, at first received scant notice and was even directly opposed by Galen's adherents, but further investigation soon made truth victorious.

Dr. Charles Whitley Emerson of Hernando and Dr. Denver C. Funderburke of Olive Branch are fond of fishing and often go down to the Mississippi gulf coast for that purpose and relaxation. Their fishing stories are up to the standard, about the big ones getting away and all.

Such as ships and brittle barks
Into the seas descend,
They see the glories of the Lord
And wonders without end.
But such as heal the sick and maimed
Do meet more manifold
Amazements in one midnight watch
Than all the oceans hold.
—Kipling.

Raising The Ante

A negro revival was in full blast, and one old fellow was exhorting the people to contribute generously. "Look what de Lawd's done fo' you-all, brethren" he shouted! "Give Him a portion of all you has. Give Him a tenth. A tenth belongs to de Lawd." "Amen" yelled a perspiring member of the congregation, overcome by the emotion! "Glor to de Lawd, Give Him mo, Give Him a twentieth." —Life.

—L. L. Minor, County Editor.
R. 4—Memphis, Tenn.
August 20, 1939.

MISSISSIPPI PHYSICIANS WHO DIED DURING 1938

Adams, R. M., 65, Ripley, July 1, Diabetes Mellitus.

Ashley, William F., 72, Shaw, March 22, Chronic Nephritis.

Alexander, A. P., 63, Como, August 9, Acute Myocarditis.

Bailey, O. L., 68, Ocean Springs, June 21, Carcinoma of Pancreas.

Bethea, John J., 74, Hattiesburg, January 24, Carcinoma of bladder with Metastasis to lungs.

Birchett, J. A. K., Sr., 71, Vicksburg, July 22, Coronary Thrombosis.

Brister, S. L., Sr., 74, Greenwood, Nov. 10, Cancer of Prostate.

Brown, T. J., 76, Grenada, October 10, Chronic Nephritis.

Bullock, J. K., 39, Jackson, December 26, Cerebral Hemorrhage.

Castle, Sara A., 76, Meridian, August 22, Hypertensive Heart Disease.

Crigler, L. W., 61, New York City, April

30, Arteriosclerosis.

Dodson, J. C., 56, Carthage, May 15, Apoplexy.

Evans, James, S., 80, Houston, April 14, Arteriosclerosis.

Fore, O. R., 63, Canton, December 23, Ulcer of Stomach.

Haralson, H. H., 84, Vicksburg, November 18, Hypostatic Pneumonia.

Harrelson, A. M., 73, Bay Springs, November 27, Cirrhosis of Liver.

Harrison, A. C., 72, Charleston, November 14, Pericarditis.

Hunt, D. R., Sr., Ellisville, May 8, Chronic Myocarditis.

Johnston, W. R., (Col.), 57, Natchez, Sept. 6, Encephalitis Lethargica.

Jones, E. P., 73, Hermanville, November 10, Myocarditis.

Kelly, T. C., 62, Sidon, December 11, Cerebral Hemorrhage.

Ladner, A. R., 61, Foxworth, January 22, Progressive Spastic Paralysis.

LeBaron, Charles, Sr., 70, Gulfport, December 11, Chronic Nephritis.

Luckett, J. A., 58, Dell, Ark., November 22, Automobile Accident.

Lucas, J. L., (Col.), 52, Jackson, January 23, Stricture of Urethra.

McCune, A. M., 65, Rose Hill, January 12, Chronic Nephritis.

MacDonald, Jessie A., 28, Collinsville, December 2, Suicide by Gunshot.

MacDonald, S., 57, Collinsville, November 17, Injury by Horse.

McEachern, M. A., 65, N. Carrollton, January 24, Lobar Pneumonia.

McLaurin, D. P., 78, Jackson, April 4, Chronic Myocarditis.

Mhoon, W. S., 59, Philipp, January 5, Lobar Pneumonia.

Pope, W. R., 62, Kosciusko, January 2, Carcinoma of Larynx.

Robertson, G. R., 93, Brookhaven, Rt. 1, April 15, Arteriosclerosis.

Seale, William C., 45, Catchings, March 30, Accidental Fall.

Ward, D. H., 54, Gulfport, February 5, Tetanus.

Ware, Archie J., 54, Jackson, January 30, Chronic Nephritis.

Watkins, H. A. J., 85, Jackson, May 7, Senility.

Wilson, W. D., 68, Schlater, Sept. 23, Chronic Nephritis.

Woman's Auxiliary

TO THE MISSISSIPPI STATE MEDICAL ASS'N

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SEND THEM IN

Schooldays, turning leaves, crisp mornings—comes fall! Now that we are resuming activities abandoned during the summer vacation, auxiliaries will meet again all over the state. There will be new plans, new vigor and new achievements. **Don't fail** to let your state press and publicity chairman know of your meetings. Send the accounts to her at the same time your local newspaper gets them!

THE NEW YEARBOOKS

As chairman of the yearbook committee Mrs. John B. Howell, assisted by the president and others, managed to get the new yearbooks out the first of this month. We would call your attention to Dr. Wall's special message of encouragement and appeal for our cooperation with the activities of the State Medical Association.

Note the list of objectives, or agenda, listed by Dr. Wall. We are to help with all of these—let's get enlightened.

One program on each of the six subjects mentioned would take in every meeting before the state convention in May.

From our vivacious young president is a

beautifully expressed message setting forth the very heart of our purpose for being, and challenging each member to service.

The record membership of 312 is also noteworthy.

DON'T DRIFT ALONG

Every auxiliary member can have a part in the organization: She can casually endeavor to interest each doctor's wife in her county, and urge her to attend the meetings this fall; she can contribute new ideas and ways of achieving the ends to which the auxiliary is dedicated; and she can keep informing herself, especially on the special objectives set out by our doctors this year.

HER ROLE FROM ANOTHER ANGLE

Many patients object to a doctor's wife knowing too much about them, and more than one doctor has lost practice by getting a reputation for discussing his patients with his wife. It is usually best from the beginning to leave your professional problems behind you when you go home, and never to talk about patients with your wife. There are at least two reasons for this: first, because it gives a better chance to relax and recover from the strain of the day's work. Second, because it is not wise to train your wife to expect a recital of your patient's troubles. The same advice applies with greater emphasis to your relations with friends. If one friend learns that you are in the habit of discussing with him the intimate details of your patients' lives, he will very naturally conclude that when he is sick he will likewise be a topic of conversation for your other friends.—Wingate M. Johnson, M.D., page 135, "The True Physician," The Macmillan Co., 1936.

NORTHEAST MISSISSIPPI THIRTEEN COUNTIES AUXILIARY

Meeting at the lovely old town of Aberdeen and enjoying the hospitality of the doctors' wives there, the Northeast Mississippi Thirteen Counties Auxiliary convened in the home of Mrs. J. M. Acker, Tuesday, September 12. Mrs. V. B. Philpot, charming and able president, arranged to have Dr. W. H. Anderson, president-elect of the State Association, address the members.

The objectives of the State Association were presented also, chiefly to help the members understand the need of intelligent and active pursuance of the doctors' aims.

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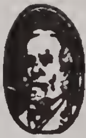

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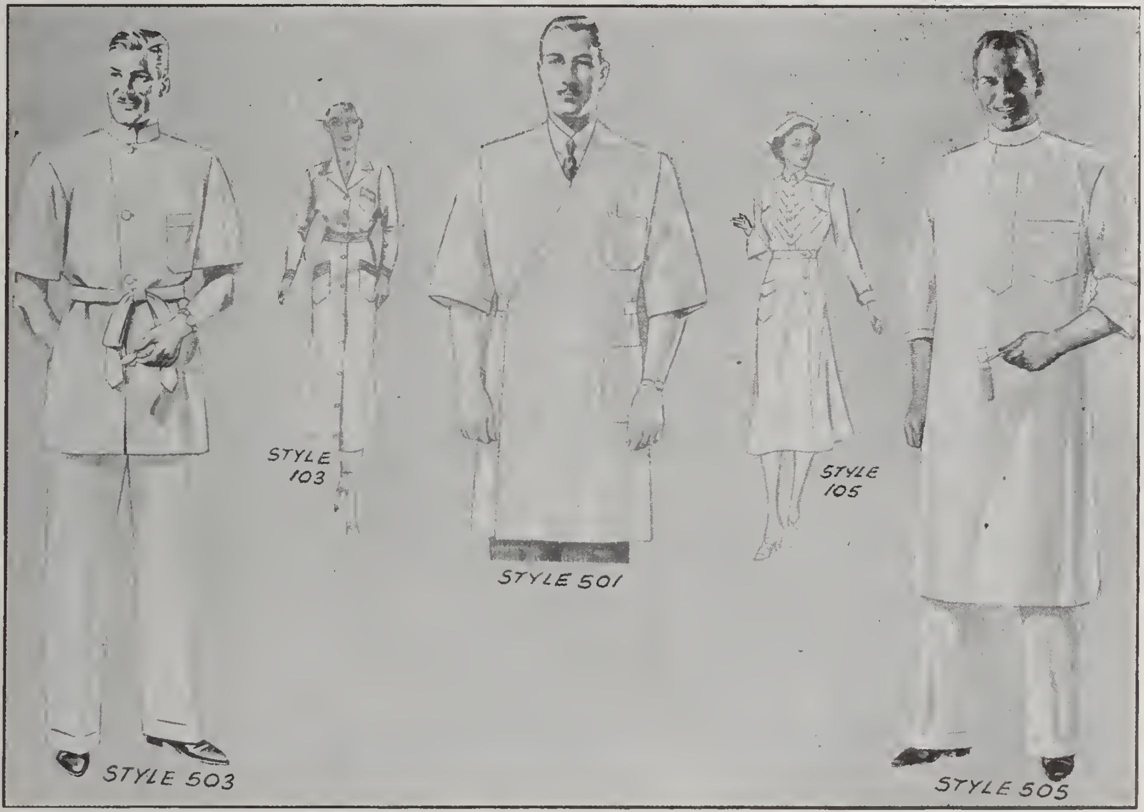
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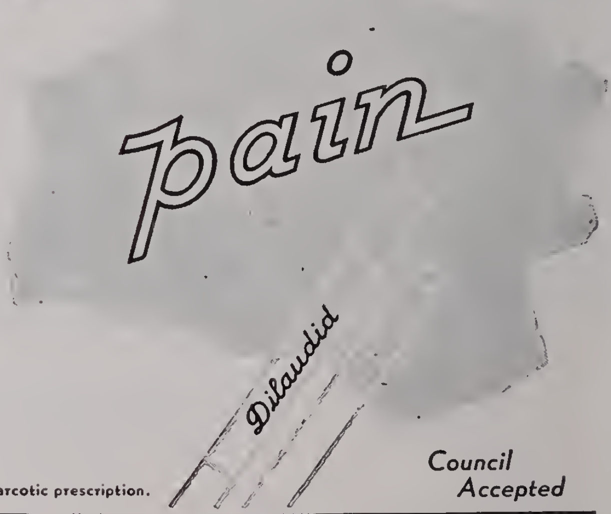

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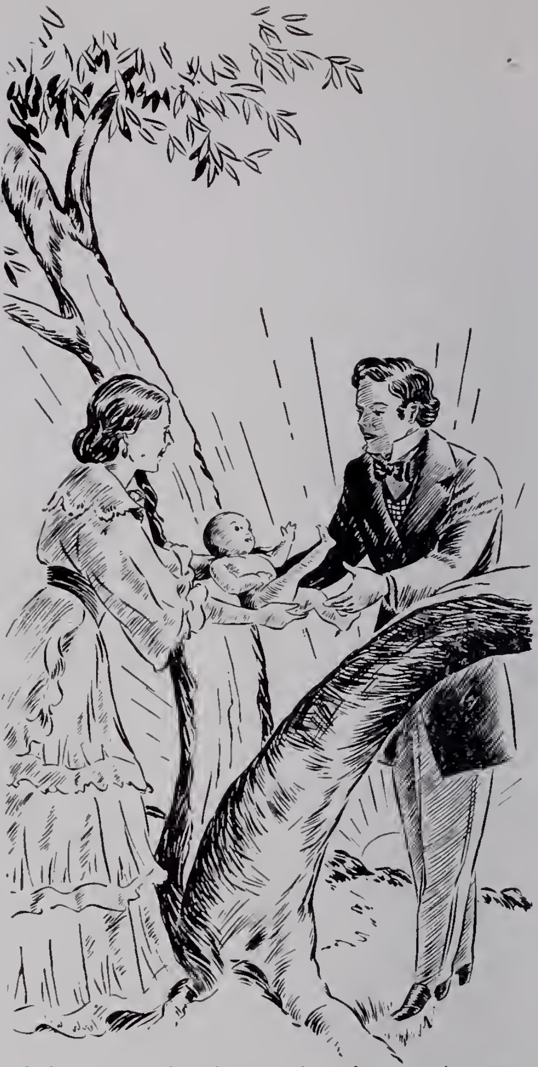
*Frazer, J. G.: The Golden Bough, vol. 1, New York, Macmillan & Co., 1923



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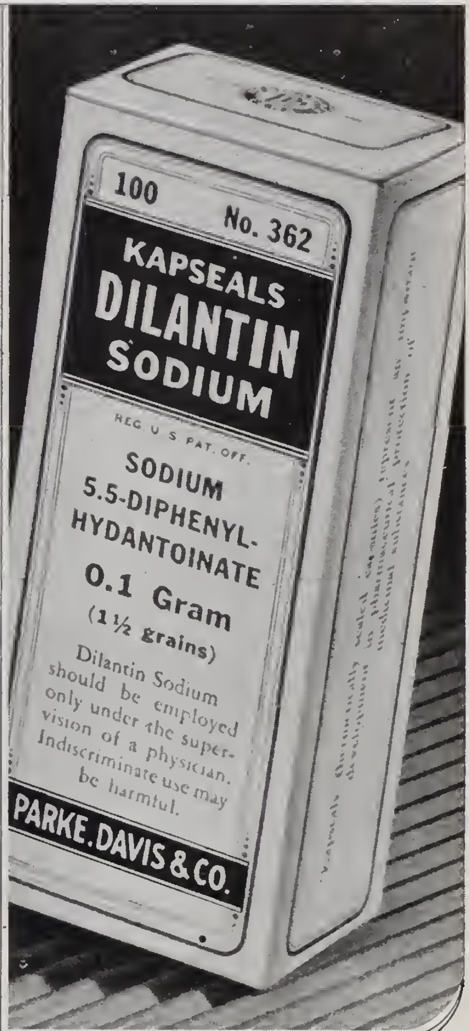
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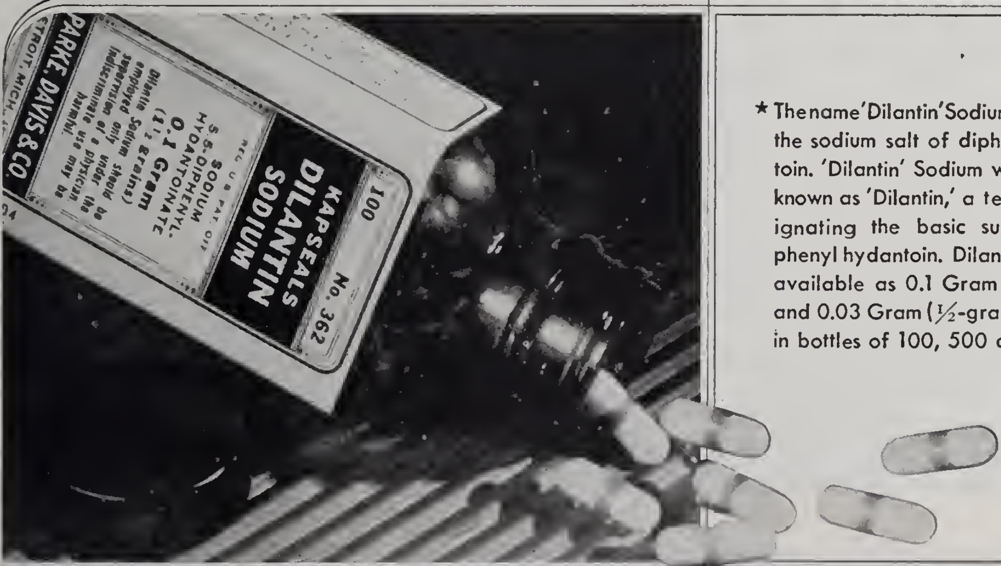
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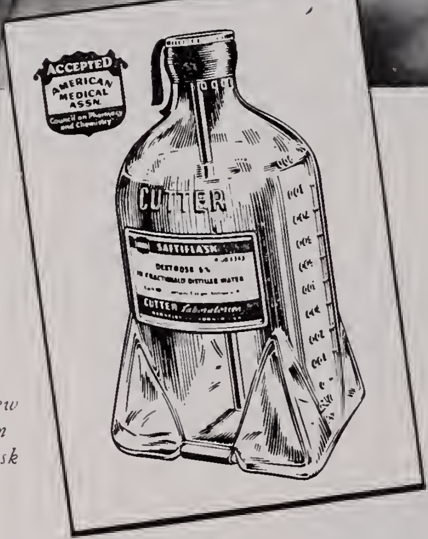

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Obstetrical Analgesia and Anesthesia*

M. PIERCE RUCKER, M. D.
RICHMOND, VIRGINIA

ALMOST one hundred years have elapsed since 1844 when Crawford W. Long gave ether to Mrs. Long at the birth of one of their children; or, if you prefer printed medical literature to family tradition, since Sir James Y. Simpson anesthetized Mr. Figg's patient with ether and delivered her by version and extraction. In that time there have been tremendous advances in obstetrical analgesia and anesthesia in spite of, or possibly on account of, tremendous opposition. Even today the most enthusiastic advocate of pain relief in labor would hardly be bold enough to say that an ideal agent or method has been found. The problem is a large one and the goal is not in sight.

Today there are two kinds of obstetricians, those who give anesthetics under protest and those who are willing and anxious to give the patient all the relief possible compatible with the safety of both mother and child. The pros and cons all too frequently get into the lay press which does the cause of obstetrical pain relief no good. On one hand there is a laudatory article about this or that new agent which not only damns all other methods as being dangerous or inadequate, but makes the reader believe that the new agent is one hundred per cent efficient and entirely free from danger. On the other hand the newspapers carry first page articles whose headlines proclaim that the high fetal mortality is due to drugs used for the relief of pain. If one reads further, one meets the statement that investigation shows that in eleven per cent of full term still births and neonatal deaths and 12 per cent of the prematures, some form of pain relief was given to the mother. A fair-minded person would like to know what caused the death of the 88% or 89%, but such information is not forthcoming. Nor can one find the percentage of the child-bearing women of the city in question who have some kind of pain relief. Both types of lay medical reporting make the task of the conscientious investigator harder.

That there is need for obstetrical anesthesia no one doubts. Professor Reed, in a recent article, states that the modern civilized woman has changed tremendously! Her mode of life, her food, her reproductive habits, her psyche, so that functional disorders have greatly increased and physiological reproduction greatly decreased. Unless something is done the birth rate of the civilized nations will further decline. The complexity of modern life has created many problems, not the least of which concerns reproduction. The modern woman is less fit physically and psychically to stand an old-fashioned confinement. She is more independent than her maternal ancestors and thanks to the widespread knowledge of contraceptive methods she has her way about having babies or not, just as she does about everything else in modern life. In Sir James Y. Simpson's time women were grateful for a little ether or chloroform when the labor pains got very bad. Now, they are dissatisfied if they know anything at all of the process. This is not a criticism of modern women, it is merely a statement of fact. No wonder then that civilized nations are confronted with a falling birth rate. Curiously enough those who are loudest in their demands that something be done to stop the falling birth rate condemn most emphatically efforts to relieve pains of child birth. The modern girl is anxious to have children, more so than the women of the previous generation. They certainly go to a lot of trouble and expense with sterility studies that their mothers and aunts think the height of foolishness. But if they have no prospect of nodynia, to use an expression of Sir James Y. Simpson's, they avoid pregnancy. I have a number of patients who remained childless for ten to fifteen years of married life. When they learned that obstetrical anesthesia was practical they had two or more children.

The problem of making childbirth more comfortable can be approached in various ways. Certain types have easier labors than others.

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*Read before the fifty-fourth annual session of the Mid-South Postgraduate Medical Assembly, Memphis, Tennessee, February 14 to 17, 1939.

The woman with a funnel or male type pelvis, or the woman with short stubby fingers and thumbs is more apt to have a long and painful labor. On the other hand a patient with heart trouble or with toxemia of pregnancy usually has a short quick labor. When there is a placenta previa the cervix dilates more rapidly. Then there are some who, for no apparent reason, have quick easy labors and others who have long tedious ones. If one found the answer to that riddle and one could supply the cause of the former or remove the cause of the latter behavior, one would make the path of the obstetrical anesthetist much easier. For a number of years I have noticed that putting the patient with a contracted pelvis or one who gave the history of dystocia on a Prochownick diet made the labor shorter and easier. Reeb has recently published a study of one hundred private patients who were kept on a salt free diet for the last four to six weeks of their pregnancies. They had decidedly shorter and easier labors.

By choosing the most appropriate method of delivery one can eliminate unnecessary suffering. To take an extreme example, if the patient has an absolute contraction of the pelvis, all labor pain is unnecessary except as an indication that the patient is at term. The anesthetic problem is then an easy one. In proper surroundings with primiparas, episiotomy followed by low forceps operation gives better results for both mother and child than unaided deliveries. It also lessens the anesthetist's problems. My own feeling is that in a properly equipped hospital the patient should be delivered as soon as the cervix is fully dilated, thus eliminating entirely the most painful part of labor and therefore the hardest part to control safely with analgesics. Just how the delivery is to be accomplished depends upon one's training and predilections. Mind you I am not advocating such a course in a home delivery or for the occasional obstetrician. The point I want to stress is that with judiciously chosen methods of delivery one can avoid much unnecessary pain.

The first requisite of the obstetrical anesthetist is a sound knowledge of the physiology of labor. The dilatation of the cervix is brought about entirely by the activity of the uterus. There is increasing evidence that the cervix is not stretched and pulled apart by the active corpus or forced open by the hydrostatic wedge of the bag of waters. It is quite likely that the cervix is a real sphincter and behaves somewhat like the pylorus of the stomach. Be that as it may, orderly, rhythmic uterine activity is necessary for its proper dilatation. If analgesics be used in the first stage they must not interfere with this activity. The best that can be hoped for is that the painful sensations that accompany such uterine contractions can be prevented from reaching the cortex cerebri. Fortunately, we have agents that can acaccomplish this in the majority of cases. I am often asked, "Does not the patient feel the pain ? Apparently she is suffering as much as if she had been given no medicine." When afterwards the patient declares that she knew nothing about it, the argument arises whether or not you have merely abolished the memory. The best evidence that that is not all you have done is the physical well-being of the patient herself.

In the second or expulsive stage the uterus needs outside help. In unaided deliveries this is accomplished by the abdominal muscles, the diaphragm and the auxiliary muscles of respiration. In other words the patient bears down. The pain in this stage is much more severe and consequently is harder to control with analgesics. Here an anesthetic is indicated, both because it controls the pain better and because the depth of the anesthesia can be better controlled. If the obstetrician is prepared to deliver the baby the patient can be put soundly to sleep; or if a natural delivery is desired the anesthetic can be administered at each pain as Sir James Y. Simpson did when he delivered Queen Victoria, the so-called anesthesia *a la reiné*. Much of the force in this stage is expended in dilating a rigid and unyielding perineum. An increasing number of obstetricians consider it good practice to obviate this incising the perineum. Such a procedure certainly lessens the anesthetist's problem. In both the first and second stages, but especially in the second stage, the baby is kept constantly in mind. It shares the mother's anesthesia, except of course in nerve block, and its respiratory center may be more susceptible to the anesthetic agent than that of the mother's. Consequently the anesthesia should be no deeper than is necessary for the purpose at hand. In general, the longer the anesthesia the more likely it is that the baby will get more than its share.

The third or placental stage depends also on uterine contractions. The separation of the placenta is brought about by alternate contraction and relaxation of the uterus and its expulsion by the patient's abdominal muscles or the art of the obstetrician. Furthermore, if the uterus does not have good tone, the partial or complete separation of the placenta may be accompanied or followed by serious hemorrhage. The arteries leading to the placental site are surrounded by spirally arranged uterine muscle fibres whose function is to constrict these vessels and prevent postpartum hemorrhage. It is quite possible with judicious use of analgesia and anesthesia to preserve the tone of these fibres in a long and tedious labor when otherwise it might be destroyed. It is equally true that the tone of these fibres can be seriously impaired by an overdosage of the drugs.

The advent of twilight sleep was followed by a tremendous interest in obstetric analgesia, and I might say in obstetrics also. Many new drugs have been introduced and new modes of administration have been devised. Some are given hypodermically, some intravenously, some by mouth and others by rectum, to say nothing of spinal, epidural, sacral or perineal nerve blocking. The old method of giving morphine by placing it on the raw surface produced by a blister is the only mode of administration that I know that is not used in obstetric analgesia. Obviously it is impossible to discuss, in the hour at my disposal, all methods of pain relief that have been advocated in obstetrics. It would seem more profitable to confine my discussion to those with which I have some experience. I have no doubt that there are many good ones of which I have no practical knowledge. I believe it is better to have a good working knowledge of a sufficient number of methods to fit the varying idiosyncrasies of your patients than to have a smattering acquaintance of a large number and confidence in none. In choosing the method to use with the individual patient, due regard should be given to any known or fancied idiosyncrasy she may have to drugs. Some patients can not take morphine or at least it does not have the desired effect. Others cannot tolerate novocaine, etc. Even the mode of administration should be considered. Some patients have a horror of a needle. Most patients prefer to be asleep when the baby is born, but there are some who prefer to know all about it provided they feel no pain, and so on.

TWILIGHT SLEEP

Twilight sleep was the first effort to give pain relief throughout the entire labor. The technique as outlined by Gauss consisted of an initial dose of morphine and scopolamine and subsequent doses of scopolamine as determined by the memory test. In primiparas the treatment was begun when the pains became five minutes apart and lasted 30 to 45 seconds. In multiparas it was begun when the patient was definitely in labor as shown by some dilatation of the cervix. The initial dose of morphine consisted of 1/6 grain and the scopolamine 3/400 grain. Three quarters of an hour later the patient was given 1/200 grain of scopolamine. If she did not remember, but recognized the object when shown her memory was considered partial and she was given 1/400 grain. If she did not recognize the object, it was considered that memory was abolished and she was given no medicine. She was shown a different object and the memory test repeated one-half hour later and the scopolamine administered accordingly until labor ended. It was considered important to isolate the patient from her friends and relatives, to darken the room and plug the ears with cotton to avoid as far as possible external stimuli. It was soon found that if the morphine were administered within three hours of the birth the baby was likely to be profoundly narcotized and that its resuscitation was difficult and troublesome, if not impossible.

Morphine and scopolamine are still used in a number of clinics. At the meeting of the American Medical Association in Kansas City, Krebs, Wulff and Wassermann of St. Louis, reported 4,000 cases. Bill of Cleveland, after its use in more than 220,000 cases, regards it the best first stage analgesic for primiparas. The memory test has been superseded by other tests as ability to touch the tip of the nose with the index finger. In the second stage some form of anesthetic is generally employed.

NITROUS OXIDE

Next in order chronologically comes nitrous oxide-oxygen. This was begun when the pains became troublesome. At the beginning of each pain the patient was instructed to take three or four deep breaths which was usually sufficient for late first stage pains. The administration was technically troublesome, for the anesthetist had to be present at every pain. Masks were devised with automatic cut-offs so that the patient could give it to herself, but still the anesthetist had to give it general supervision. For years I carried around such a portable apparatus that was said to weigh 22 pounds, if I remember rightly. The cost of the gas was quite an item.

RECTAL ETHER

Gwathmey introduced what he called synergistic anesthesia, that in various modifications is still widely used. It consists of hypodermic administration of morphine dissolved in two cc. of 50% magnesium sulphate solution, for the early pains. When the cervix is half dilated a mixture of ether and oil with varying amounts of quinine in alcohol is administered by rectum. Whether this is retained or not depends largely on the experience and skill of the nurse. The rectum must be cleansed previously with a saline or soda enema. The rectal tube filled with olive oil or mineral oil is then introduced well above the presenting part. The ether-oil mixture followed by a chaser of plain oil is allowed to run in by gravity or is forced in by pressure. Preferably the entire dose is administered between pains. A compress is then held against the anus until some of the ether is absorbed and the efforts of the patient to expel the mixture cease. The effect of the ether administered in this manner lasts three or four hours and it can be repeated.

The number two mixture in Gwathmey's original paper has been my favorite. It consists of 3½ ounces of ether, 1½ ounces of olive oil, 10 grains of quinine and 2 drams of alcohol. The idea of adding quinine was that it counteracted the tendency of the ether to stop uterine contractions. Later he increased the quinine to 20 grains. He was working in the clinic of the late Asa B. Davis who was emphatic that there should be no increase in the number of forceps deliveries. Personally, I believe the increased dosage of quinine to be a greater danger to the baby than a forceps operation. Whether the magnesium sulphate is of any value is an open question. In a small percentage of cases its injection has been followed by abscesses. Its use has been largely abandoned. The ether-oil however, is a valuable addition to the obstetrician's armamentarium. It is quick acting and safe, and can be used either in the home or the hospital. When the cervix is five or more centimeters dilated it seems to hasten the completion of the dilatation. It is especially useful when the patient is first seen within one or two hours of probable delivery, when there is not time enough for the more slowly acting combinations. I use it also when the patient is restless or excitable under other methods.

BARBITURATES

A great number of barbiturates have been recommended and used for obstetric analgesia. I have experience with only sodium amytal, nembutal and evipal. The dosage of sodium amytal is twice that of nembutal. Otherwise, I can see no practical difference between the two. Nembutal is said to be quicker in its action and shorter in the duration of its effect. I began to use sodium amytal before nembutal was introduced and use it routinely except when I have an interne who prefers nembutal. The time for its administration is early in labor. My practice is to give 12 grains of sodium amytal (or 6 of membutal) at once and to supplement it with 1/200 grain of hyoscine as often as it is necessary to keep the patient asleep between her pains. Two to four doses of hyoscine suffice for the average labor. If the patient is not sleeping but is obviously disoriented the dosage of the hyoscine is considered sufficient. Occasionally the patient becomes restless and unmanageable. She is then given ether-oil per rectum or else paraldehyde. Some form of anesthetic is used for the actual delivery.

For induction of labor I vary the procedure somewhat. The patient is given 3 grains of sodium amytal when she enters the hospital. She is then given the usual local preparation. An ounce of castor oil and five grains of quinine are then administered followed in half an hour by nine grains of sodium amytal. The membranes are then ruptured. If the patient does not go to sleep when she is taken back to her room she may be given an additional three grains of sodium amytal. Hyoscine in 1/200 grain doses is used to keep the patient asleep between her pains and a general anesthetic for the actual delivery.

Evipal intravenously in doses of 1 cc. of a 10% solution per 16½ pounds of body weight is an ideal anesthetic for episiotomy and low forceps. If everything works smoothly you have time enough for the repair, otherwise the repair can be finished with local infiltration of novocaine. I seldom use it, however, because I do not know what first stage medication is compatible with it. It is ideal for dilatation and curettements and for cleaning out the uterus after an incomplete abortion. I have also tried rectal administration of sorium evipal but the patients are restless and the analgesia and amnesia have not been as good as that obtained with sodium amytal or nembutal.

Paraldehyde is a more recent first stage analgesic. It can be administered in various ways; by rectum, intramuscularly, or by mouth. However, it has such a vile taste and odor that its administration by mouth is unsatisfactory. DeCosta and Reis suggest that it be given in doublenaught capsules. Each capsule holds 1 cc. and four capsules are recommended every hour. The capsules must be freshly filled. In my experience many patients vomit after such treatment. Douglass and Peyton mix it with equal quantities of aromatic elixir. Kane now gives the initial dose by mouth mixed with crushed ice. The patient holds crushed ice in her mouth until the ice in the paraldehyde dissolves. Taken thus, ice cold on a chilled palate, it is fairly acceptable. It can be given hypodermically deep into the muscles. But after all, probably the best way to administer the drug is the way described originally by Kane, i. e., mixed with 1.5 cc. of benzyl alcohol and followed by a small quantity of normal salt solution. In my experience it has not been quite so satisfactory as sodium amytal and hyoscine. Nevertheless, it is a useful drug to have around. I use it principally as a substitute for sodium amytal when the patient has, or thinks she has, an idiosyncrasy to the latter drug. I use it as an adjuvant to sodium amytal when the patient becomes unduly restless and excited. My chief objection to the drug is an irritating effect it has on my eyes when I am sewing up the perineum, especially if the membranes rupture just before the baby is born. I have collected some of the fluid for analysis and my chemist friends tell me that it is due to the presence of acetaldehyde.

CHLOROFORM

When homes, and hospitals for the matter, were lighted by lamps or gas, chloroform was the obstetric anesthetic par excellence. It is pleasant smelling, quick acting and relaxes the uterus for versions and extractions. The late J. Writridge Williams used to teach that the pregnant woman had an especial immunity to the dangers of chloroform. The occurrence of a fatal case of acute yellow atrophy of the liver caused him to change his opinion. Chloroform has now been almost entirely superseded by other anesthetic agents.

ETHER

Ether is probably the safest inhalation anesthetic. It lends itself readily to obstetric uses because practically no apparatus is necessary for its administration. It can be given in the home as well as in the hospital. With it one can obtain any degree of relaxation that is necessary. When the patient is under the influence of a first stage analgesic the disagreeableness of "going under" ether is largely eliminated. It cannot be used in the presence of an open flame, as mixtures with oxygen or air are explosive. If the patient has an upper respiratory infection, or when influenza is epidemic, some other form of anesthesia had better be used.

NITROUS OXIDE-OXYGEN

Nitrous oxide-oxygen is a pleasant anesthetic and is especially useful when the patient is shocked. It requires special apparatus for its administration which makes its use for home obstetrics impractical. It does not cause enough relaxation of the uterus for an easy performance of a version. Unless it is exceptionally well given the mother shows some evidence of asphyxia, which of course is shared by the baby, which in turn may be a contributing cause of intracranial hemorrhage.

ETHELENE

From the mother's point of view ethelene is an ideal anesthetic. The patient goes to sleep quickly and easily, and there is enough relaxation for any obstetric operation. Its chief drawback besides its explosive character, is that it increases hemorrhage from small blood vessels. Injuries to cerebral vessels in the infant that might otherwise be trivial may give rise to serious intracranial hemorrhage. I had a definite increase in infant mortality when I was using ethelene, which subsided when I stopped its use.

NOVOCAINE

Novocaine is not used in obstetrics as much as it should be. There are two reasons for this. First, most patients prefer being asleep when the baby is born. Second, its administration requires a certain technical skill. However, it is the only anesthetic that has no effect on the baby. Moreover, it is safe when colds are epidemic or when the patient has a respiratory infection. Four modes of administration have been used in obstetrics; subdural or spinal, epidural, sacral and perineal nerve block.

Any obstetrical operation can be done under spinal anesthesia except a spontaneous delivery. The perineal reflex is entirely obliterated and only the very exceptional patient will use her abdominal muscles under such circumstances. The obstetrician does not need the large doses that the surgeon uses. Fifty mgm. is sufficient for vaginal deliveries and 75 to 90 mgms. for abdominal. The technique is simple. The top of the glass container in which the novocaine crystals come is removed in a clean, surgical manner. A lumbar puncture is made in the usual manner and sufficient spinal fluid is allowed to drip into the container to dissolve the novocaine. The stylet is replaced in the spinal needle. When the novocaine is dissolved the solution is aspirated with an ordinary Luer syringe that fits the spinal needle. The stylet is then withdrawn and the syringe fitted to the spinal needle and the solution is injected. The spinal needle is then withdrawn, a gauze compress is fastened over the puncture wound and the patient is turned on her back. Full anesthesia is obtained in a few minutes. Spinal anesthesia is contraindicated in shock, abnormally low or high blood pressures and in myocardial disease. Cosgrove has reported large series of cases without untoward results. It has worked well for me in a smaller number of cases but I must confess to a certain uneasiness when using spinal. If one should get an obstetric palsy which, of course, is possible with any form of anesthesia, or without any for that matter, the spinal would certainly be blamed for it.

Sacral anesthesia is really an extradural nerve block. I have used it in upwards of 500 cases but I never got proficient enough to obtain good results in more than 88% of the cases. Technically, it is more difficult to give to a pregnant woman for the reason that the landmarks are more frequently obscured and the patient cannot be put in the prone position. In two instances the spinal needle entered the subdural space. As is needed for sacral nerve block, such an accident, if unrecognized, would be serious. While I learned a lot about uterine physiology from sacral anesthesia, it is not too reliable to deserve a place among the obstetric anesthetics.

Perineal nerve blocking deserves a wider use in obstetrics. It is dependable, and is safe for the mother and does not affect the infant. For low forceps operations and episiotomies it is ideal. Versions and extractions can be done with it provided one works slowly and cautiously and the patient is well enough under her first stage narcosis. About 100 cc. of 0.5% solution of novocaine to which is added 1 cc. of 1-1000 adrenalin, is necessary. With a fine hypodermic needle the perineum is infiltrated. Ten cc. or more are injected in the region of either ischial spine. For this one uses a long needle fitted to a Luer-Lok syringe. The needle is guided by a finger within the vagina and every time the point of the needle is moved an effort is made to withdraw the plunger of the syringe to make sure that the needle is not in a blood vessel.

Recently several articles' have appeared describing the use of epidural anesthesia in obstetrics. It is safe, provided the needle does not enter the subdural space, and dependable. It has the advantage that the obstetrician can be his own anesthetist, but it is time consuming and the technic is somewhat difficult. One needs a spinal needle that fits a 20 or 30 cc. Luer syringe, a glass adapter with a narrow bore and a small hypodermic syringe and needle. Fifty cc. of a 2%novocaine solution are necessary. The patient is placed on her right side. No effort is made to flex the spine. The skin over the second lumbar interspace is infiltrated with the hypodermic syringe. The spinal needle is then introduced in the second lumbar interspace and the stylet is withdrawn and the glass adapter, partly filled with sterile water, is attached. The needle is then pushed slowly through the yellow ligament into the epidural space where a negative pressure is encountered. When this occurs the water in the glass adapter is sucked in for a distance of a centimeter or more. The adapter is then removed and five cc. of the novocaine solution are injected. To make sure that the needle has not entered the subdural space, one waits five minutes. If no anesthesia is obtained one knows that he has not given a spinal anesthesia by mistake. The remainder of the solution can now be injected safely. A sterile gauze compress is applied to the puncture wound and the patient is turned on her back. Anesthesia is obtained in from 15 to 20 minutes. You get the same relaxation of the perineum that you get in a spinal or successful sacral anesthesia. The anesthesia lasts at least forty minutes. The body of the uterus does not relax. I have done a version with epidural anesthesia, but it is more difficult than with spinal or ether anesthesia. One has to work between the uterine contractions. It is satisfactory for forceps operations and if timed so that the head engages in the vulval ring in the fifteen minutes that elapses before anesthesia sets in, spontaneous delivery may occur.

SELECTION OF ANESTHETIC

While there is not an universally satisfactory obstetrical anesthetic, one can, with the proper selection of the agents available, relieve the first stage pains in over 90% of cases and abolish the second stage pains in 100%. My failures fall into two classes. First are the patients who make such rapid progress that they keep ahead of the analgesia I have used. This is poor judgment on my part. I may have employed a barbiturate and hyoscine when I should have used rectal ether, or I may have started with rectal ether when I should have begun an inhalation anesthesia at once. In most cases I correct my judgment of the case before more than half an hour elapses. The second class is harder to deal with. The labor is slow and there is so little margin between relieving the pains and stopping them entirely that a satisfactory analgesia cannot be maintained. In such cases it is usually best to explain the situation to the family, stop all medication and wait until the cervix is half dilated. When labor has progressed that far, you will likely have no further trouble.

Certain classes of patients require certain types of anesthesia; notably patients with heart disease, toxemia and placenta previa. When the patient has a grave heart lesion, it is especially important to save her from as much pain and physical work as possible. In planning the first stage of analgesia it is well to remember that the cervix is likely to dilate much more rapidly than in the average one. Morphine and scopolamine or a barbiturate and scopolamine serve well in such cases. The second stage should be shortened as much as possible. Perineal nerve block is ideal for forceps delivery, although these patients stand a short ether anesthesia fairly well.

Toxic patients stand general anesthesia poorly. Spinal anesthesia is also contra-indicated. They are also apt to be noisy and unmanageable when given hyoscine. Reliance should be placed on the barbiturates and paraldehyde for the first stage and perineal nerve blocking or epidural anesthesia for the delivery.

In cases of placenta previa and premature separation of the placenta one is naturally apprehensive of hemorrhage and shock. Sodium amytal, nembutal and paraldehyde had better be avoided as the use of any one of them might complicate matters and confuse the clinical picture. For a section, local infiltration or nitrous-oxygen is preferable. For a version and extraction ether is preferable and for forceps or spontaneous delivery perineal nerve blocking is all that is necessary.

In conclusion I wish to emphasize that there is no one satisfactory method of obstetric anesthesia. The obstetrician has at his disposal a number of fairly satisfactory agents. It is only by carefully studying the patient and selecting the agents in combination or sequence that best suit that particular patient, that the best results will be obtained.

The Late Complications of Head Injuries and Their Treatment*

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WHEN YOUR distinguished chairman, Dr. Long, and I were studying neurology, an exuberant classmate, after a few hours of study, announced that he "knew the spinal cord." Being somewhat slower-minded, I have spent the greater part of the fifteen years since that time studying and the profundity of my ignorance is still abysmal.

Of greatest interest to the general surgeon and the general practitioner in this ever-growing field of neurosurgery is the subject of head injuries. Of the nearly 40,000 annual deaths from automobile accidents in this country[1], 50 per cent result from injuries of the brain[2]. Swift[3] estimates that there are 112,000 skull fractures in the United States each year. The average mortality rate is 24.1 per cent[1, 4], but of those who recover, an estimated number present serious subsequent complications. It is of these complications that I wish to speak today.

POSTTRAUMATIC PSYCHOSIS AND NEUROSIS

We are all familiar with the manifold psychic manifestations which may follow head injuries ranging from persistent headache to severe major psychoses. These disorders properly belong to the psychiatrist and will not be discussed here.

CEREBRAL CICATRIX

The age limits of brain injuries begin before birth. Prenatal asphyxia, precipitate birth or instrumental delivery may damage the brain or its vessels. In many unfortunate cases, the injuries are widespread, mental and physical development is retarded and spasticity is extensive. These children are hopeless. In others, however, development is normal and only when the child later begins to have convulsions or hemiparesis does he come to the physician. Such children often have focal cortical scars, with localized dilatation of the ventricle due to contracture of the overlying scar. The latter may be readily removed. Thus Case I (V.U.H. No. 54263) began to have increasingly frequent convulsions at the age of 10, four years before admission. The attacks were generalized and there were no specific neurologic signs. However, encephalograms showed a large local dilatation of the postero-inferior portion of the left ventricle. At operation a huge, tough cortical scar was excised from this area. There have been no attacks in the two years since operation.

Neglected or unsuspected depressed fractures often cause severe but curable complications, especially posttraumatic epilepsy. Case II (V.U.H. No. 85974) a 37-year-old-salesman, was slugged into unconsciousness by bandits in 1935. Recovery was prompt, but a year later he had a generalized convulsion. The case was thoroughly studied elsewhere. Plain films of the skull and encephalograms were normal. He had other convulsions and noticed mental slowing and poor memory. When I saw him in June, 1937, there were no neurological findings, but special tangential x-rays showed a depressed fracture in the right parietal region. The depressed bone was removed and a small dural defect repaired under local anesthesia. He noticed an immediate increased clarity in his thinking. There have been no seizures or other symptoms to date.

In other such cases, an underlying cortical scar must be removed. Case III (V.U.H. No. 83843), a housewife of 21, bumped her head on a window-edge, without producing symptoms. Two months later she had the first of three generalized convulsions. X-rays showed a small depressed fracture similar to that in Case II. This was removed, but, a year later, she had two focal convulsions. At the second operation, a contracted cortical scar was excised. She has been free of symptoms for a year and a half following this procedure.

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*Read before the Surgical Section of the Mississippi State Medical Association, Gulfport, May 10, 1939.

†From the Department of Surgery, Vanderbilt University School of Medicine.

A severe cortical cicatrix may develop without depressed bone. Case IV (V.U.H. No. 91364), a 26-year-old farmer, sustained a compound, comminuted fracture elsewhere, but the wound of the brain was not débrided. Six months later focal convulsions beginning in the right arm began and occurred with increasing frequency for 2½ years until I saw him. A large traumatic cyst with surrounding scar was removed from the left hemisphere, and the convulsions have not recurred (six months).

In another instance (Case V, V.U.H. No. 95256), the convulsive seizures followed a stab wound in the left frontal region. The scar extended to the depth of the distorted ventricle and had a diameter of 4 cm. (Fig. I).

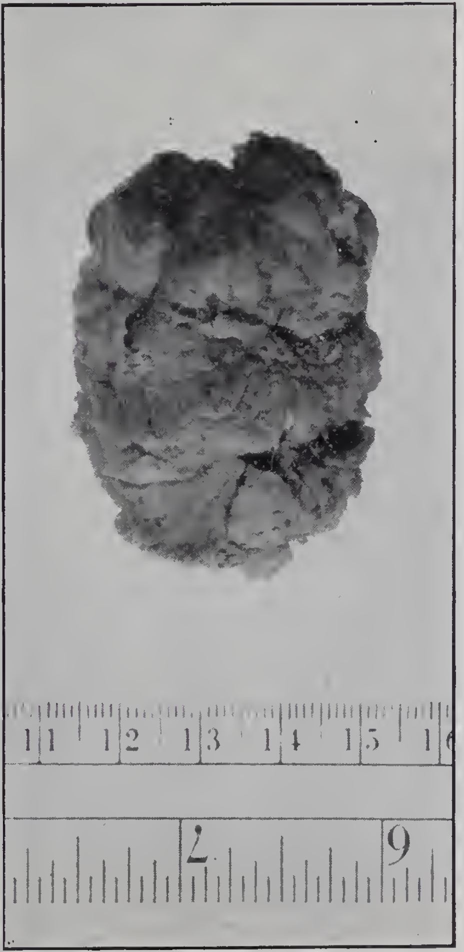

Fig. I, Case V — Photograph of large cortical scar excised from left frontal lobe.

Chronic Hematoma

Slow venous hemorrhage may produce surprisingly large masses of encapsulated, broken down blood, which produce symptoms only after a long latent period. These hematomas may be subdural or subcortical. Case VI (V. U. H. No. 84803), a 60-year-old farmer, entered the hospital in a semi-stuporous, confused condition, with speech impairment, loss of memory, right hemiplegia and advanced intracranial pressure. The symptoms had begun four months before. Only later was it recalled that he had had a seemingly trivial fall a month previously. At operation a huge subdural hematoma with thick fibrous capsule covered most of the left hemisphere, but was removed intact (Fig. II). Recovery was complete and no symptoms have appeared in the two years since operation (Fig. III).

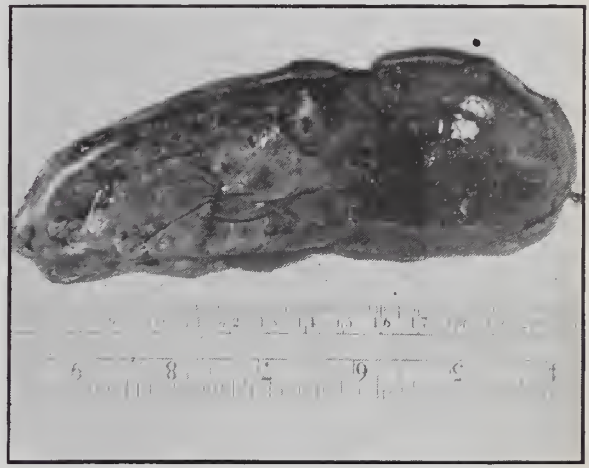

Fig. II, Case VI — Enormous subdural hematoma with thick fibrous capsule.

Case VII (V.U.H. No. 83636) illustrates the late results of subcortical hemorrhage. This 25-year-old. electrician fell on his head at the age of six years and was said to have had a "fractured skull," with transitory unconsciousness and no residual symptoms. Not until four months before admission did he have the first of three generalized convulsions, without other symptoms between attacks. There were no abnormal neurological signs, but roentgenograms showed a small mass of flocculent calcification in the right parietal region. At operation, a subcortical cyst, containing chocolate-brown fluid, with thick, fibrous, partly calcified walls was removed. Recovery was delayed by an extradural clot, necessitating reopening of the flap, but was otherwise complete. In the more than two years since operation, he has had several brief "dazed feelings," when greatly fatigued, but no other symptoms. It is of interest that, although right-handed, he had a transitory aphasia after operation. It seems probable that the lesion had been present since his childhood injury. Microscopically, it was an encapsulated hematoma.

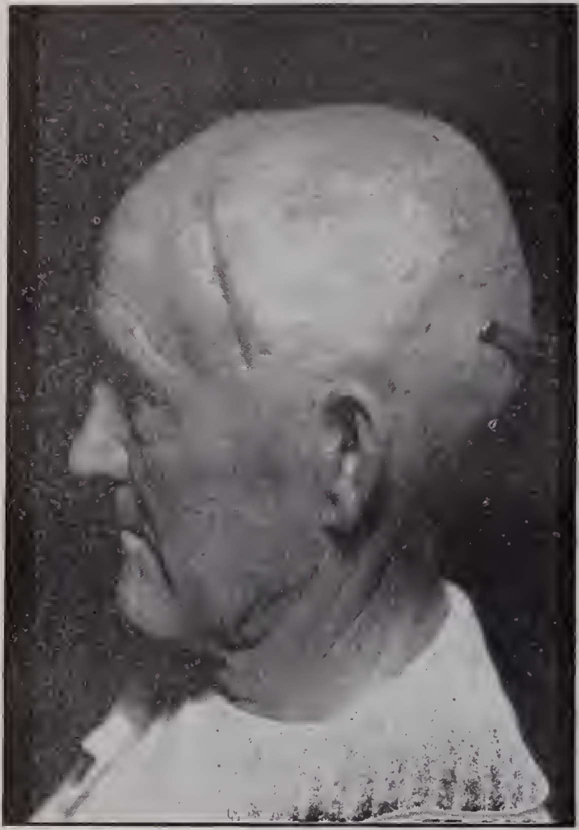

Fig. III, Case VI — Photograph of patient 33 days after operation.

Brain Abscess

Wounds of the brain, particularly when foreign bodies are retained, are very likely to develop into abscesses, if thorough débridement is not carried out within a few hours of the injury. Case VIII (V.U.H. No. 92591) was not seen until 16 hours after receiving a gunshot wound in the right frontal lobe with retention of the fragmented bullet and indriven fragments of bone. [Fig. IV (a) and (b).] Removal of the foreign bodies and all damaged tissue was carried out at once [Fig. IV (c)], and the wound closed in the hope of obtaining primary union. However, he subsequently developed fever, leucocytosis, contralateral hemiparesis and signs of increased intracranial pressure. It was necessary to reopen the wound and drain the abscess which had formed. This slowly healed from the bottom and he was free of symptoms for a year and a half, when he had a convulsion. In the succeeding year he has had several more seizures and it is now planned to excise the

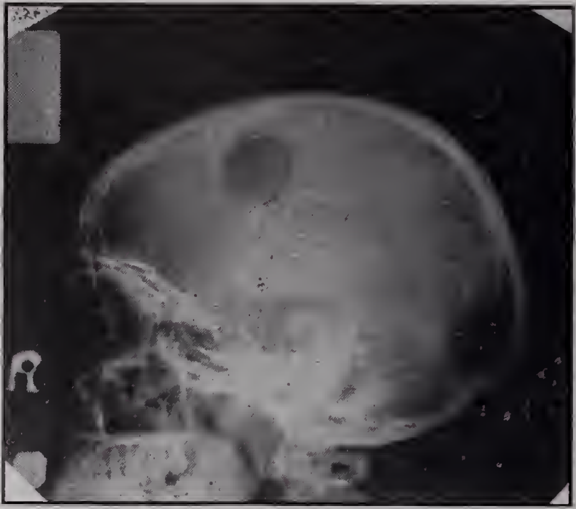

Fig. IV (a) & (b), Case VIII — Lateral and antero-posterior roentgenograms, showing location of bullet and indriven fragments of bone.

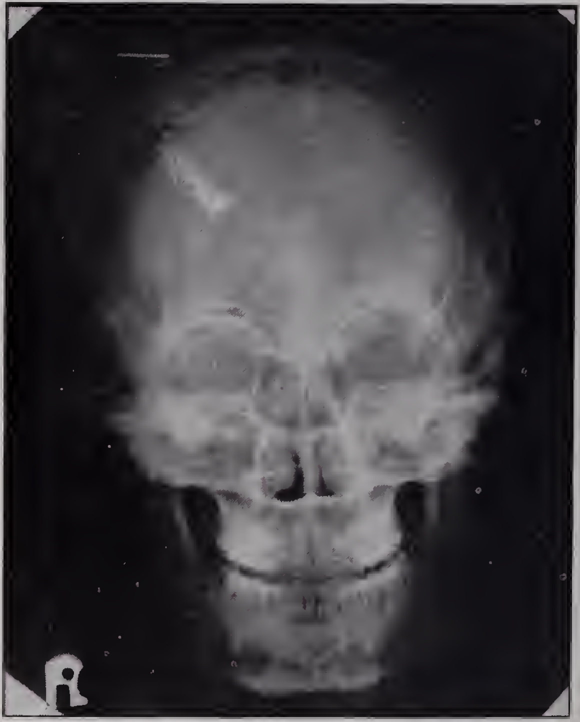

Fig. IV. (b) See caption for Fig. IV (a) Case VIII.

cicatrix which always follows such an infection.

Such abscesses may be much slower in development. Instances have been reported in which symptoms appeared and abscesses were found as long as 18 years after injury (cf. Pilcher[6, 7]).

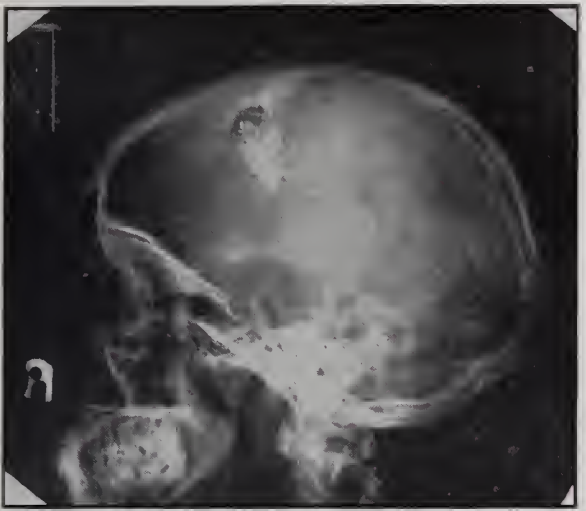

Fig. IV (c) Case VIII — Roentgenogram after removal of bullett and debridement of wound.

Injuries of Cranial Nerves

Any of the cranial nerves may be damaged by fractures of the base of the skull, but the facial and auditory nerves are most frequently involved. It is important to remember that regeneration of these nerves is extremely slow. Thus, if a facial nerve is badly contused, without loss of continuity, 12 to 18 months may elapse before function is completely restored. Furthermore, even if the nerve is severed, the ends may remain approximated and regeneration occur. For these reasons, I feel that in most instances no attempt at nerve anastomosis should be undertaken in less than two years after traumatic cranial nerve paralysis. This point is well-illustrated by Case IX (V.U. H. No. 89095), a 44-year-old housewife who was seen immediately after receiving a fracture in the left parietal region which extended down into the base. Facial paralysis of peripheral nerve type was complete. She recovered from the associated cerebral injury, but the first flicker of returning facial nerve function did not appear until eight months after the injury. This slowly increased, but presented a remarkable picture (Fig. V). On attempting to smile, she achieved moderate motion of the lower facial muscles, but when an effort was made to elevate the eyebrows, the left forehead remained smooth, but the left corner of the mouth was drawn outward. Evidently nerve fibers originally supplying the frontalis muscle had grown into the sheaths of fibers formerly supplying the lower facial muscles. By re-education, she is gradually learning to use the muscles properly.

Traumatic Pneumocephaly

This rather rare condition occurs when air makes its way into the cranial chamber and often into the ventricles, usually following fractures into the frontal, ethmoid or sphenoid sinuses. Unless the communicating opening closes spontaneously at once and the air rapidly disappears, operative closure of the defect must be employed to prevent the entrance of pathogenic organisms. (The same dictum holds good in the case of cerebrospinal fluid rhinorrhea). Case X (V.U.H. No. 96885) is particularly remarkable because pneumocephaly was a late complication. This 65-year-old laborer was struck by an auto-

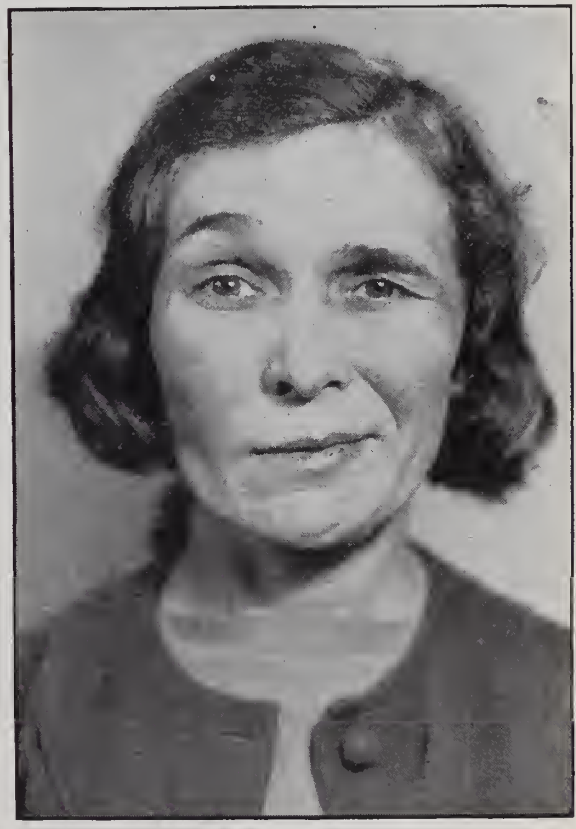

Fig. V, Case IX — Patient is attempting to elevate both eyebrows. Note the left forehead does not wrinkle, but the left corner of the mouth is drawn out due to misdirection of regenerating nerve fibers.

mobile seven weeks before I saw him. He was unconscious two days, following which he gradually recovered. Roentgenograms made by his physician showed a fracture "on the right," but no other pathologic finding. After five weeks, when up and active and quite rational, he suddenly became dazed, had a convulsion and remained comatose or stuporous until admission to the Vanderbilt Hospital. Skull x-rays showed a large amount of air in the ventricles and in the subdural and subarachnoid spaces. First attention was given to the man's extreme dehydration and starvation. After a week, the air in the cranial cavity was greatly diminished. He rapidly improved, the air disappeared and there have been no subsequent symptoms.

Pseudotraumatic Symptoms

Under the subject of this paper, I cannot refrain from calling attention to the large number of cases, especially in children, in which pre-existing undiscovered symptoms are attributed to an injury which is in reality the result rather than the cause of the symptoms.

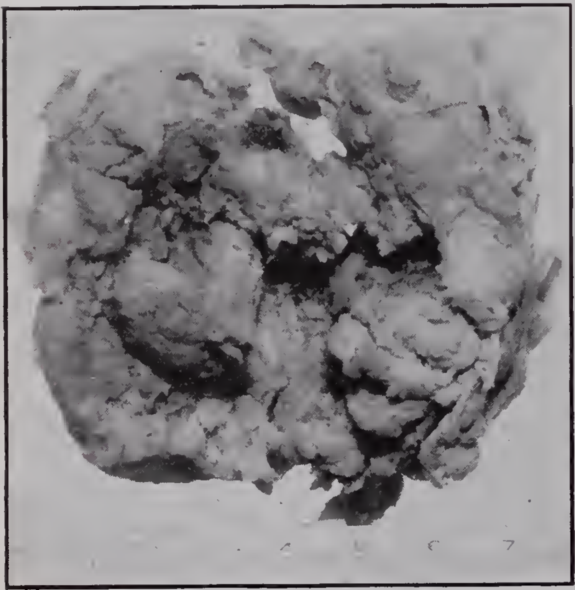

Fig. VI, Case XI — Photograph of the tumor removed from patient's occipital lobe.

For example, Case XI (V.U.H. No. 60718), a boy of six, fell from his front porch and struck his head. Subsequently, his family noticed that he was nearly blind. He was sent to me with a diagnosis of intracranial hemorrhage, but I removed a large tumor from his left occipital lobe (Fig. VI). He is still blind four years after operation, because his visual failure went undiscovered until it caused him to fall. Similarly, ataxia with staggering, or convulsions, due to tumors, may cause falls which are blamed for subsequent symptoms.

Principles of Treatment

As with other diseases, the best treatment of the complications of head injuries discussed in this paper is prevention. Depressed fractures in any part of the skull should be elevated early. Compound fractures constitute a surgical emergency and their thorough débridement with removal of all damaged tissue and foreign bodies will prevent many of these complications. Prompt diagnosis and treatment of intracranial hemorrhage is a sine qua non.

When the complications do develop, however, painstaking neurologic study, often with the aid of ventriculography or encephalography, and the exercise of sound surgical judgment and the meticulous technique of neurosurgery will alleviate the suffering of many of these distressing cases.

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Syphilis In Its Relation To Insanity In The Mississippi State Hospital During The Last Ten Years*

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THE ATTENTION of the entire nation has been recently focused on the State of Mississippi because of the high incidence of syphilis in this state. The racial distribution of population is probably the most important factor in our syphilis rate. Of 176,898 cases reported to the State Board of Health from 1928 to 1938, 127,831, or 72.2 per cent were Negroes[1]. It is only natural that this incidence of syphilis should be reflected in the records of the Mississippi State Hospital. The purpose of this study is to investigate the part played by syphilis in the production of insanity, and the fate of those patients with psychosis due to syphilis.

TABLE 1

Showing first admissions with psychosis and psychoses due to syphilis, by race and sex, for each of the ten years. Percentages due to syphilis are also shown.

Year	White Male			White Female			Colored Male			Colored Female			Total		
	First admissions with psychosis	Psychoses due to syphilis	Percentage due to syphilis	First admissions with psychosis	Psychoses due to syphilis	Percentage due to syphilis	First admissions with psychosis	Psychoses, due to syphilis	Percentage due to syphilis	First admissions with psychosis	Psychoses due to syphilis	Percentage due to syphilis	First admissions with psychosis	Psychoses due to syphilis	Percentage due to syphilis
1929	153	18	11.7	133	3	2.2	312	72	23.0	271	18	6.6	869	111	12.7
1930	154	16	10.3	161	3	1.9	308	82	26.6	244	46	18.8	867	147	16.9
1931	191	14	7.3	130	7	5.3	274	58	21.1	263	37	14.0	858	116	13.5
1932	170	23	13.5	137	5	3.7	293	60	20.4	264	24	9.0	864	112	12.9
1933	246	22	8.9	153	0	0.0	243	64	26.3	208	32	15.3	850	118	13.8
1934	190	10	5.2	140	1	0.7	249	53	21.2	209	23	11.0	788	87	11.0
1935	209	12	5.7	103	1	0.9	214	38	17.7	186	21	11.2	712	72	10.1
1936	318	14	4.4	226	5	2.2	295	52	17.6	307	20	6.5	1146	91	7.9
1937	295	17	5.7	227	6	2.6	305	80	26.2	285	19	6.6	1112	122	10.9
1938	274	24	8.7	282	6	2.1	357	88	24.6	316	32	10.1	1229	150	12.3
Total	2200	170	7.7	1692	37	2.1	2850	647	22.7	2553	272	10.6	9295	1126	12.1

METHOD OF STUDY

For study we have chosen first admissions with psychosis. No attempt is made to differentiate the type of syphilitic psychosis, and the term "psychosis due to syphilis" embraces all of the various descriptive diagnoses used through the years. From this classification are excluded all cases in which the psychosis is only partly due to syphilis or aggravated by central nervous system syphilis, and all cases with another type of psychosis but with luetic involvement of the central nervous system. In a vast majority of cases, serological findings on the spinal fluid support the diagnosis. In those cases where spinal fluid evidence is lacking, the blood is positive and the symptoms are typical. Rosenthal[2] has estimated an error of between 25 per cent and 40 per cent in the listing of individual psychoses. This margin of error is greatly reduced in this study, due to laboratory support of opinion.

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*Read before the Section on Medicine at the seventy-second annual session of the Mississippi State Medical Association, May 10, 1939, Gulfport, Miss.

Cases are divided into race and sex groups. The figures are reviewed from the points of incidence and fate. Other factors that present themselves are given as they arise. From these findings, conclusions are drawn concerning the relation of syphilis to insanity in Mississippi.

INCIDENCE

During the ten-year period beginning July 1, 1928, and ending June 30, 1938, 11,541 patients were admitted for the first time to the hospital. Of these, 9295 were found with psychosis, 3892 whites and 5403 Negroes, or a ratio of 1.39 negroes to one white (Table 1). The psychosis was due to syphilis in 1126 or 12.1 per cent of all cases, divided into race and sex as follows: white male, 170 or 7.7 per cent; white female, 37 or 2.1 per cent; negro male, 647 or 22.7 per cent; and negro female, 272 or 10.6 per cent. The actual ratio of negroes to whites bearing this diagnosis was 4.39 : 1. On a basis of percentage of racial admissions, that is, if equal numbers of both races had been committed the anticipated ratio becomes 3.16 : 1. On this basis, the psychosis is due to syphilis 2.73 times more frequently in negro males than in white males, and 4.72 times more often in negro females than in white females.

The age of the patient on admission was given 1046 cases. For these, the average was 43.6 years. The psychosis appeared later in males, averaging 45.1 for white males and 44.3 for colored males, against 37.1 for white females and 37.8 for colored females. This figure must be conservatively interpreted, especially for the negroes, for there is a marked lack of accuracy in giving ages on anamneses, with a definite tendency to give an even decade. The highest incidence is in the fourth, fifth and sixth decades (Table 2). This is true for all race and sex groups.

TABLE 2

Showing age incidence by decades.

Age	Number of Patients
Under 10	1
10-20	23
20-30	133
30-40	298
40-50	268
50-60	198
60-70	90
70-80	90
70-80	29
Over 80	6

Individually, the records show the earliest case at the age of nine years in a white female, and the latest in a negro male at the age of eighty-eight. Matthews et al.[3] report the case of a Chinaman admitted at the age of ninety-four.

FATE

Table 3 shows the fate of the patients by race and sex for each of the ten years. Death has accounted for 541, parole was granted 363 who showed sufficient improvement, while 222 remain active. Since this study terminates abruptly at the end of the decade, these figures are best presented graphically (Table 4) because of the increasingly higher proportion of active cases as the years proceed.

Of the 1126 cases of psychosis due to syphilis, 48.0 per cent died, 42.8 per cent colored and 5.2 per cent white. For the race and sex groups, death terminated 30.0 per cent of white male cases, 18.9 per cent of white female, 54.5 per cent of negro male, and 47.7 per cent of colored female. This gives an anticipated ratio of 6.8 negro deaths to one white death, further computed by sexes to be 5.7 : 1 for males and 13.3 : 1 for females. These 541 deaths represent 5.8 per cent of the total first admissions with psychosis during the ten years.

Parole was granted 32.2 per cent with the negro paroles accounting for 23.4 per cent. The white females lead the race and sex groups with 52.1 per cent, followed in order by white males, 45.3 per cent; colored females, 30.8 per cent; and colored males, 17.9 per cent. The anticipated ratio for parole is 1.8 negroes to

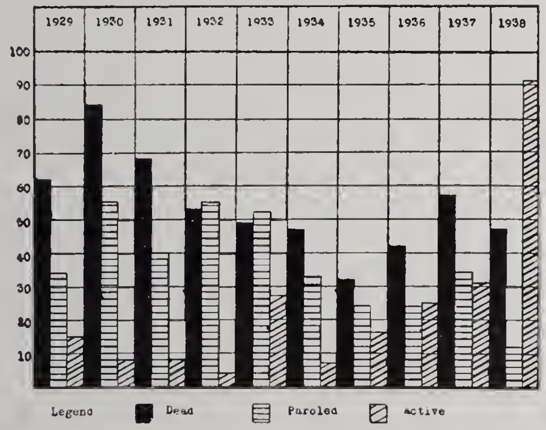
TABLE 3

Fate of patients with psychosis due to syphilis, by race and sex for each of the ten years.

	White Male			White Female			Colored Male			Colored Female			Total		
Year	Dead	Paroled	Active	Dead	Paroled	Active	Dead	Paroled	Active	Dead	Paroled	Active	Dead	Paroled	Active
1929	6	8	4	1	1	1	45	19	8	10	6	2	62	34	15
1930	5	11	0	1	2	0	51	25	6	27	17	2	84	55	8
1931	5	8	1	1	5	1	41	14	3	21	13	3	68	40	8
1932	7	15	1	2	3	0	31	28	1	13	9	2	53	55	4
1933	4	13	5	0	0	0	31	28	5	14	11	7	49	52	17
1934	6	4	0	0	1	0	30	20	3	11	8	4	47	33	7
1935	4	6	2	0	1	0	18	13	7	10	4	7	32	24	16
1936	3	5	6	0	3	2	29	11	12	10	5	5	42	24	25
1937	4	6	7	0	5	1	47	16	17	6	7	6	57	34	31
1938	7	1	16	2	2	2	30	5	53	8	4	20	47	12	91
Total	51	77	42	7	23	7	353	179	115	130	84	58	541	363	222

TABLE 4

Graphically showing fate of patients with psychosis due to syphilis, combined race and sex groups, for each of the ten years.



one white, by sexes, 1.8 : 1 females and 1.6 : 1 males.

Those who remain active require no analysis except to say that they constitute the remaining 19.8 per cent, have increased in number only during the last four years of the period, until in 1938, they represent 60.6 per cent of the year's admissions with this diagnosis.

The effect of the age at the time of admission on the prognosis is demonstrated in Table 5. This is most marked in white males, among whom the group who died averaged almost 15 years older on admission than the groups given leave or remaining active. Males who died averaged 7.9 years older on admission than females who died.

Death was attributed to syphilis in 244 cases and to cerebral hemorrhage in 171. Intercurrent disease took its toll as follows: cardiac disease, 34; tuberculosis, 27; pneumonia, 22; pellagra, 17; and other causes, 20. The cause of death was not noted in 6 cases. This writer is inclined to believe that a high percentage of the deaths attributed to cerebral hemorrhage was directly due to central nervous system syphilis, since that cause of death appears in very many cases who are far below the age when cerebral accidents commonly occur.

These 1126 cases represent a total of 479,908 patient days of hospitalization. Nine months and twenty-two days was the average period

TABLE 5

Showing relation of average age to date in race, and sex groups for the entire ten-year period.

	White Male		White Female		Colored Male		Colored Female		Total	
Condition	No.	Av. age	No.	Av. age	No.	Av. age	No.	Av. age	No.	Av. age
Dead	48	55.4	6	35.8	331	46.1	123	39.5	508	45.3
Paroled	77	40.9	22	37.2	171	42.1	80	35.7	360	38.9
Active	40	40.7	7	38.2	93	42.5	48	37.0	188	40.5
Total	165	45.1	35	37.1	595	44.3	251	37.8	1046	43.6

spent in the institution before death, while the parolees remained for ten months and eighteen days on an average before being given leave. By race and sex there is little variation in these time intervals, nor is there a significant difference in the year groups. Prior to the introduction of tryparsamide it was the dictum at our hospital that all paretics died within five years. Fifteen of the present series have remained active for the ten-year period.

TREATMENT

Tryparsamide and bismuth has been the routine. Injections of tryparsamide are given in courses of ten, punctuated by rest intervals which vary in length according to the custom of the physician in charge of the service. Malaria was first used in 1928, with good results. Diathermy was introduced in 1932, but the results were not as good as those obtained with malaria. Although these measures have been used occasionally during the entire ten-year period following their introduction, their use has not been routine. Malaria requires hospitalization and cannot be properly administered on the wards. Diathermy demands the services of one man for each two patients on treatment days. The presence of so many patients with this diagnosis overtaxes the facilities of the hospital when either malaria or diathermy is adopted routinely. Neither diathermy nor malaria seems to have altered the outcome of the disease to any noticeable extent. Exact figures, however, for proper evaluation are not available at this time.

Arsenical therapy is withheld only in those cases showing evidence of faulty vision at the time of examination. Eyeground examination frequently reveals that it is safe to administer the drug to these. Optic atrophy has complicated few of our cases.

GENERAL CONSIDERATIONS

The demands on the Mississippi State Hospital for institutional treatment of the majority of the mentally ill of the state tax the facilities and the necessarily limited staff to such an extent that minimal requirements permit the parole of patients. In dealing with psychoses due to syphilis, two considerations are paramount. Firstly, the patient must show sufficient mental improvement or arrest at such a stage that he is not a menace to himself or to others. Secondly, there must be some provision for continuance of treatment on the outside. It follows, therefore, that the period of hospitalization increases as the probability of further treatment decreases. Some patients are paroled to their families without improvement when the families agree to assume responsibility and to provide treatment.

The relative improvement in the proportion of paroles to deaths seen in 1932 and 1933 (Table 4) is explained on the basis of a law then passed requiring the parole from the hospitals for the insane in Mississippi of all patients who are adjudged harmless and incurable. Strict observance of this law at the time, in view of the poor prognosis in psychoses due to syphilis, caused the immediate parole of patients whose fate is unknown beyond that point.

The present study offers no follow-up of the cases. Quite a few of those paroled have been readmitted. Many of those listed as active have died or been given leave since the termination of the period under investigation.

Figures on the incidence of systemic syphilis are not available.

All classes of patients are admitted to this hospital. In the group are representatives of almost all of the professions and occupations.

COMMENT

Compared with an incidence of 12.1 per cent in our series, Moore and Merritt report an incidence of 9.3 per cent in Boston Psychopathic Hospital[4], and Cohen and Fairbank[5] found syphilitic psychosis in 18.3 per cent of first admissions from the Eastern Health District of Baltimore in 1933. This latter series had a negro percentage of 29.5 for first admissions, with an actual ratio of syphilitic psychosis of 9 negroes to 4 whites.

In a state with fairly equal racial distribution of population, there is a ratio of 2.6 negro to one white case of syphilis reported to the State Board of Health. The expected ratio of 3.16 negro to one white case of psychosis due to syphilis is distinctly at variance with the popular opinion that neurosyphilis is more common in whites, while vascular syphilis is more common in negroes[6, 7], supporting, instead, Foster[8] who claims that paresis is more frequent in negroes, and Lamann[9] who suggests that involvement of the vascular and nervous systems may not vary appreciably in the two races.

The mortality rate is higher than that of Matthews[3], who had a mortality of 34 per cent in a series of 511 cases. This is probably due to the high percentage of negroes in our cases, for the mortality ratio is almost seven negroes to one white. The negro seems to have little resistance to the disease.

The weakness of the negro asserts itself again in the parole rate, for the ratio drops to an expected 1.8 negroes to one white.

Age at the time of admission has little influence on the outcome in females, but is a definite factor in males, most marked in white males, in whom death occurred in patients averaging 15 years older on admission. Males averaged about seven and one-half years older than females for the entire group, with no significant racial difference.

During the period, the State of Mississippi appropriated $3,762,000 for the upkeep of the hospital. The population for the period was 28,582. This gives a daily allowance of 36.3 cents per patient. It is only by expert management that the superintendent is able to make ends meet with this allowance. These syphilitic patients, representing 479,908 patient days, have cost $174,206.60 on a prorated basis. This figure, however, is a distinct underestimation, for the treatment required by this disease is much more costly than that given the other types of psychosis. In no other condition we are called upon to treat is there such persistent, costly therapy. For this reason, they work an additional hardship on the institution by lowering the amount of money available per capita for general maintenance.

Although the figures for evaluation of the use of malaria and diathermy are not available at present we have no reason to believe that they have influenced the outcome to any appreciable extent. This is in agreement with Matthews[3], who found that the results obtained with tryparsamide closely approach that obtained by combining it with malaria or diathermy.

CONCLUSIONS

1. In a ten-year period, syphilis was responsible for the psychosis in 12.1 per cent of first admissions with psychosis.

2. The diagnosis occurred in an actual ratio of 4.39 negroes to one white, or an expected ratio of 3.16 : 1.

3. It occurred more frequently in males than in females in the actual ratio of 2.64 : 1.

4. The average age at the time of commitment was 43.6 years. Males averaged seven and one-half years older on admission than females.

5. Forty-eight per cent died. The mortality rate was much higher in negroes than in whites, with an anticipated ratio of 66.8 : 1.

6. Paroles were granted 32.2 per cent, with the negro proportion dropping to an anticipated 1.8 : 1, essentially constant in both sex groups.

7. The prognosis was appreciably affected by the age on admission only in males. This was most marked in white males, in whom the average age was 15 years older for the group who died.

8. The majority (80.2 per cent) either died or were paroled in an average of approximately ten months.

9. All figures show that the prognosis is much poorer in negroes than in whites. The negro seems to have little resistance to the disease.

10. Intercurrent disease, with the exception of cerebral hemorrhage, accounted for 22.1 per cent of the deaths. This writer feels that the most of the deaths attributed to cerebral hemorrhage were the direct result of central nervous system syphilis.

11. These patients represent a prorated ex-

penditure of $174,206.60.

12. Treatment with tryparsamide and bismuth has given fairly uniform results over the period studied. Limitation of facilities has prevented the routine use of malaria and diathermy. Neither of these seems to have altered the outcome to any considerable extent.

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DISCUSSION

Dr. F. A. Donaldson (Whitfield): I appreciate Dr. Waldron's paper very much, and he has put some mighty interesting and valuable statistics in it. May I suggest that Mississippi's high syphilis incidence is largely due to the negro population, but let's not overlook an important fact—there may be a double and may be a treble reporting of syphilis. I feel that if these negroes were reported by name, this ratio would fall off. I know all these cases that come into the hospital are reported, unless they are designated as having already been reported. The cost is mentioned as 36.3 per day per patient as the pro rata share of the cost of keeping up the hospital, but this is far from the actual cost to the hospital. The largest cost, of course, is in the length of time the patient is out of activity, but the extension of treatment in the hospital puts that far above the average cost there. The treatment of malaria and diathermy requires long periods of time. Chemicals and optic atrophy are to be considered and total blindness is not rare in this treatment. The percentage of all admissions due to syphilis is large, and where psychosis is due to syphilis the number of syphilitic women in the hospital exceeds that for men.

The percentage of death is largely due to the increased cost; it is practically impossible to get them out once they are in. An interesting fact in this series of cases is that they either get better or die early. They either show an improvement or they are on their way out. The two important factors brought out clearly in this paper are early diagnosis and an uninterrupted course of treatment. Early diagnosis is the only solution of this problem. And certainly no case should ever be allowed to quit treatment until the cure is completed. I enjoyed the paper very much.

Dr. B. J. Marshal (Whitfield): There are just about two things that I want to call attention to that have probably not been brought out before. It happens that I have a negro in service in our hospital and every negro who comes there goes to see that negro for diagnosing and cataloguing. Our statistics show over a number of years that negro males run a higher percentage of syphilis than any other. We show a little better than 40 per cent of syphilis in our admissions. Most of us actually diagnose the psychosis from that syphilis—the neurotics are diagnosed as psychosis with so and so, and we always qualify suspected syphilis. Just what part that syphilis plays we are not always prepared to say, but it plays a part. About 20 per cent of all admissions show up with a diagnosis based on the laboratory report of psychosis with syphilis. Those fellows as far as I am concerned are practically lost to the economic world. We have just begun a series of treatments on negroes with a new diathermy machine, with which we are getting a series of good records. Dr. Donaldson has made arrangements through Dr. Riley to get a strain of malaria that is being incubated in Baltimore, and that he is going to run a series of cases parallel to mine. While this is new with us, we believe that at the next meeting we can give worth while statistics concerning the treatment of neurotic syphilis. I am rather pessimistic in hoping for any results in neurotic syphilis, however, for my experience is that most of those people die in about three years.

Sometimes we can benefit them; we get them mentally clear and let them go home, but most of them die. The one thing on earth that is going to solve this problem, which is an economic one, is means for definite early diagnosis. Few homes in Mississippi do not have negroes, and our contact with these negroes that have syphilis makes it also a social problem. Eliminating the mental hazard from our syphilis is going to depend entirely on the attitude that we, as individual members of the medical profession in Mississippi, take about it and get facilities for diagnosis. We must have early diagnosis and an intensive treatment.

There is one thing I want to stress. If you men had better facilities, you could make a blood Wassermann when you feel it necessary to do so. It is also just as necessary for you to go ahead and make a spinal Wassermann. I have not found any statistics to find out how long a man has had a positive blood before he turns up a mental case, but if he was found with a positive Wassermann at the time he came to you with a positive blood and then your treatment was begun, I feel that a considerable number of these men would never reach us. Making an early diagnosis, acquiring better facilities for laboratory diagnosis more county units, district units, county health units, where these men can be examined and where treatments can be taken, is a problem which we are all going to have to consider. I am appealing to you in the solution of this problem to make an early diagnosis, to make an early treatment and to fight for better facilities for making a laboratory diagnosis.

Dr. A. L. Gray (Jackson): I would like to ask: Is it not true that a person with early syphilis, having a small amount of treatment is more likely to develop syphilis insanity than if he had no treatment at all?

Secondly something was said about the amount of syphilis being reported by physicians. It is true that there is a great deal of duplication in the amount of syphilis reported by physicians, but we have still better statistics indicating what the syphilis problem is in Mississippi, that through widespread blood examination of servants of all ages, groups and race groups, very definitely we find that we have approximately 300,000 colored and about 30,000 to 40,000 white people with syphilis in Mississippi.

Dr. W. H. Anderson: Dr. Padget will you please answer this question asked by Dr. Gray?

Dr. Paul Padget: You embarrass me. I came here to be instructed, not to bore my audience with my voice in another discussion but there is one question which I happen to be able to answer, and that is that the average on several large series of cases of syphilis is about 11 to 12 years. It is perfectly clear from the number of statistics studied that if he develops neurosis he does it sooner. That is proved. It has also partially proved, but somewhat questioned, that the incidence of neurotic syphilis is actually increased by nontreatment. I believe that is true. I enjoyed Dr. Waldron's paper very much indeed. I agree with the other men who have discussed it that the local study of your local conditions is what you need. What happens in Baltimore does not have anything to do with it. But it is very interesting that this incidence of 12.1 patients with neurotic syphilis is almost exactly like that of observers in other places.

It was emphasized by one doctor that the prognosis in the number of these cases and the ones that cannot be started out early in the game is very bad. I raise the question whether or not it is worth while to prolong the life of a patient by treatment from a purely public health standpoint of dollars and cents. Are we justified in maintaining such an individual at public expense any longer than is humanly necessary?

Dr. Galloway (Jackson): I would thank Dr. Waldron in the first place for the splendid study he has made. I think literature needs a great deal more of this careful analysis of our own local problems. We can go to the big authorities, but the general idea is that when we bring it home it looks like it is a long way off, and Dr. Waldron has analyzed here one of the phases of syphilis that gives a great deal of social and economic disturbance.

There is another thing I would like to point out. I suppose the recurrent cases that we are having now of syphilis in 1938 are the poorly treated or untreated cases that occurred probably between 1920 and 1925, or maybe as late as 1928. The reported incidence of syphilis in Mississippi in that period was approximately 12,000 to 13,000 annually and as far as I know that is about correct. The doctors do give us fairly good information in general as to how much syphilis we are having at one time, so these cases we have in the mental hospitals are the syphilis groups of 1920 and 1925, maybe up to 1928. Last year we had reported in Mississippi by the physicians approximately 28,000 cases. We might see from that approximately what we are going to have in our mental hospitals 10 years from now, unless we do better with this group than we did with the 1925 group.

Dr. Waldron: I want to thank the doctors for the discussions given. I do want to stress one thing that was brought out by Dr. Donaldson, the spinal puncture. The day has passed when a spinal puncture was a major operation and now it should be done more often by the men in general practice. Frequently they refer the patient to us to do the spinal puncture; he admits he came in for that and the doctor sent him back to have the spinal puncture done. Doctors ought to do more of it at home, then they would pick up many of these cases before we get them. After we get them they are nearly all gone.

Backache*

A Discussion of Traumatic Destruction of the Lumbosacral Intervertebral Disc

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All of us have most likely had a few patients more or less suffering with low backache with no recognizable congenital deformities, fractures, dislocations or other spinal pathology for whom we have run the gamut, so to speak, of recognized treatments without results; i.e., rest in bed, with or without frames or fracture boards, leg traction, baking, adhesive strapping, sacroiliac supports, corsets, plaster casts, manipulation, metal braces, exercises, etc. We possibly have had roentgenograms made in some of these cases, particularly in those patients who dated the development of their backache to a definite trauma. Most of the time no pathology was recognized in these spinal and pelvic views. After this, we usually wound up by diagnosing such cases as sacroiliac strain, or spinal arthritis or more rarely, lumbosacral strain. After a few weeks of treatment for these conditions we sometimes began to suspect the patient of "soldiering," especially so if he was drawing compensation. If the patient happened to be a woman and with no definite history of trauma, we sometimes sent her to a gynecologist, particularly so if we did a pelvic and found anything suspicious of existing pathology. There she was often "hysterectomized, antuitrinized or theelinized" until she finally gave up hope and went off on her own hook to some large out-of-state clinic or else to some cultist who has promised relief in just such cases through many feet of newspaper and magazine advertising space. Our usual reaction to ridding ourselves of such a patient has been a feeling of relief and a sincere wish that in the future we may be blessed by never having another patient to come to us for treatment of a backache. As a consequence, the popular cultist or quack thrives on this failure of physicians to recognize the true cause and to institute proper treatment in these cases.

The orthopedic surgeon has had more or less the same viewpoint on this subject as the general practitioner up until comparatively recent years. Ideal diagnostic procedures and treatments are not even yet as good as we would like them to be but we can proudly say that the causes and treatment of backache are slowly coming out of the shadows in which they have been hiding for so many years and a sane approach to the subject is being evolved.

All of you have seen roentgenograms of a spine taken in connection with some nonrelated condition such as a broken rib, and the bodies of the vertebrae showed severe marginal lipping; yet that patient was surprised when you told him he had extensive hypertrophic arthritis because he had never had painful symptoms. Such instances occur frequently enough to cause us to doubt whether a low backache in such an individual is due primarily to his spinal arthritis. We should be wary of making such statements because a patient's psychological makeup can certainly be ruined by being condemned to a diagnosis of arthritis. I do not doubt that some employees of concerns which demand roentgenograms of the workman's spine at the time of employment have been wrongly discharged after a seemingly trivial injury which resulted in a backache incorrectly concluded by the attending surgeon to be caused by a flare-up of the spinal arthritis demonstrated in the filed films.

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*Presented at the Staff Meeting, Columbus Hospital, Columbus, Miss., July 15, 1939.

It has been said that prominent buttocks and a hollow back may be considered as conducive to glamor in women. These two factors together with a protruding abdomen are seen often enough in women and less often in men complaining with a chronic low back pain to cause us almost to believe that they are cultivated characteristics. Possibly high heel shoes and high caloric diets with lack of exercise contribute their share in their production. Elimination of lumbar lordosis, lowering of the buttocks and holding up the sagging abdomen have resulted in relief from backache a sufficient number of times to say that such postural correction is of importance.

The usual symptoms of these patients are a feeling of "tiredness" and weakness across the low back, relieved somewhat by bed rest and exaggerated by activity, sometimes with and sometimes without sciatic pain in one or both legs. Pain in the buttocks or around the femoral trochanters is occasionally the chief complaint. Typical findings are tenderness in the lumbosacral or sacro-iliac regions or both, occasionally limitation of straight leg raising on one or both sides, together with the obvious postural defects.

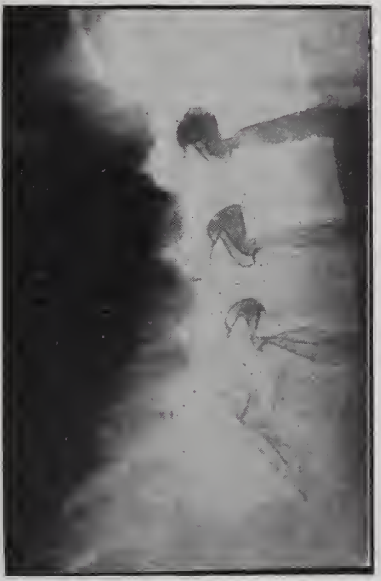

Fig. 1. Chronic traumatic destruction of lumbar intervertebral discs and subluxation of facets.

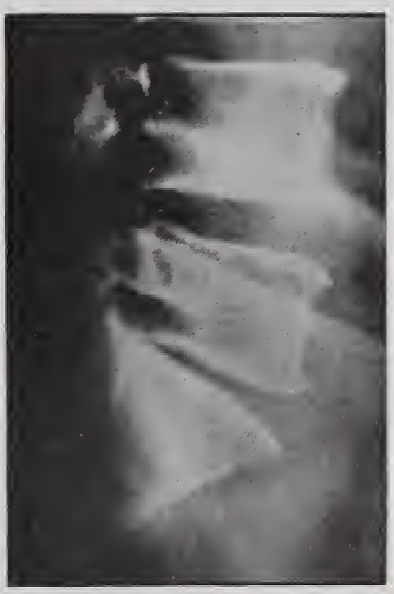

Fig. 2. Acute traumatic destruction of the lumbosacral intervertebral disc.

Roentgenograms of the lumbar spine, sacrum and coccyx in such cases usually show an exaggerated lumbar lordosis with more or less of a right angle formed by the sacrum at its junction with the fifth lumbar vertebra. The lumbosacral intervertebral space is often seen to be diminished posteriorly as if the fifth lumbar had settled on the sacrum.

Acute backache following a definite trauma is more often seen in men. This trauma does not necessarily mean a blow directly to the low back region; rather the trauma usually is indirect: a "catch" in the back followed by persistent pain was felt when straightening up from a forward flexed position as in lifting a weight above the knees, or pulling up weeds, or following through after a golf stroke or on the back stroke of a "serve" in tennis. Sciatic pain may or may not develop some time after this and be the main factor in causing the patient to seek relief from a physician. The illustration of the man in the famous kidney pill advertisement, stooping forward with one hand on his back for support and anguish demonstrated in his facial expression, is the best picture I know of how one of these backache sufferers enters your office. He can hardly sit in a chair long enough to tell you his history. If questioned, he will tell you that coughing, sneezing or laughing intensify the back pain. He may tell you of a feeling of weakness or numbness or tingling in one of his legs and that stooping forward far enough to tie or untie his shoes has been impossible since the accident. No one position is comfortable for more than just a few minutes at a time. In changing from a standing to a sitting position or in lying down or getting up, he is very slow and deliberate and makes every effort not to move his low back region. Further questioning will bring out the fact that the usual position for comfort when in bed at night is on the side with one or both legs flexed at the hip and knee.

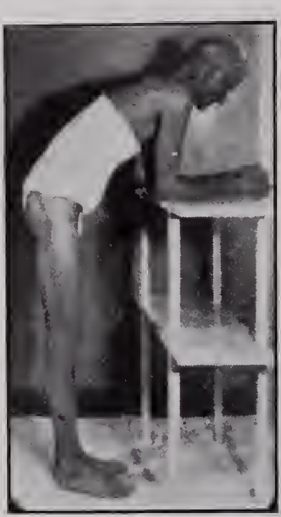

Fig. 3. Flexion body jacket.

In some of these patients the sciatic pain has assumed such magnitude that the low back symptoms are masked sufficiently in the patient's mind to cause him to omit telling you about them unless questioned closely. This is the type of patient that many times in the past has been subjected to injections for so-called "sciatica," to "deaden the nerve" and then developed another attack shortly afterward. Such attacks may occur repeatedly at irregular intervals. True sciatica is so rare that one should hesitate ever to diagnose it without first having definitely ruled out all other primary etiologic factors by an exhaustive clinical study. Quoting from Haggart[1]: "A general medical examination including comprehensive laboratory studies, is the initial step to rule out such systemic causes as diabetes, peri-neuritis from metallic poisoning and pain due to intra-pelvic or intra-abdominal pathology. Thereafter orthopedic and neuro-surgical consultations, together with lumbar puncture and manometric readings, follow. Possible foci of infection are carefully investigated. The examination is concluded by roentgenograms of the lower spine and the pelvis which comprise true antero-posterior, lateral, and forty-five degree angle views; and in this group these are supplemented by additional lateral views of the lumbosacral spine in the position of maximum flexion and extension. If these various studies fail to determine the etiology, then the sciatic pain is classified as of unknown origin."

The physical findings in these patients are usually more definite than in the woman with a postural backache. The spinal muscles are tight and tender and motions of the spine are limited in all directions. The back is held stiff with normal curves eleminated. Hypertension of the lumbar spine causes excruciating pain. Tenderness over the low back region

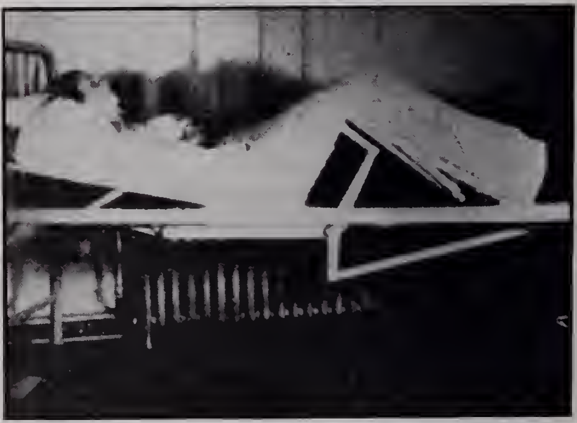

Fig. 4. Flexion attitude employed in bed.

is usually so generalized that definite points of maximum pain on pressure cannot be localized. In most of the cases straight leg raising is limited due to pain on one or both sides. An anesthesia or hyperalgesia is frequently found along the anterior and lateral surface of a thigh and the angle jerk on that side may be diminished or absent.

Proper roentgenographic technic is of extreme importance in determining the underlying pathology in cases of low back pain. The average antero-posterior and lateral films made of the lumbosacral spine are not worth the time it took to make them. A careful exact technic must be followed to visualize the lumbosacral space. True lateral views of this space cannot be obtained unless the patient's thoracic region is elevated by pillows so as to compensate for the greater width of the pelvis. Antero-posterior views cannot correctly be obtained unless the patient lies on the back with the knees drawn up about forty-five degrees and the tube tilted up to about the same angle and centered on the lumbosacral area. This is necessary because the lumbosacral space is oblique in antero-posterior direction due to the lumbar lordosis, and in ordinary antero-posterior views with the tube pointed directly downward the body of the fifth lumbar vertebra is shown superimposed on the space.

These films in such cases show a narrowing of the posterior margin of the lumbosacral joint space with more or less subluxation of the lumbosacral facets. This narrowing may be observed in all the lumbar intervertebral spaces but becoming less apparent as the thoracic spine is approached.

I have been guilty of placing such patients on hard unyielding beds and hyperextension frames with traction on the legs if sciatic pain was present before Williams very ably explained a few years ago the mechanics of such back symptoms. I will further admit to making many unwarranted diagnoses of sacro-iliac strains before that time. Fortunately, Williams[2] has so clarified our understanding of the correct principles in treating these backs that now we can offer much more than "hit or miss" treatment. He believes that the underlying primary pathological change in the majority of these backs is a mechanically altered lumbosacral articulation, resulting usually from changes in the intervertebral disc. With degeneration of the disc the vertebra above settles and causes a partial subluxation of the joints formed by its inferior facets and the superior facets of the segment below. The resulting constriction gives mechanical pressure on the segmental nerve roots traversing the foramina. Degenerative arthritic changes follow due to the disturbance in the relationship of the normal weightbearing articulating surface. In the lordotic lumbar spine the settling of the discs is more marked posteriorly. Lordosis is greater at the lumbosacral disc than at any other part of the spine and by roentgenograms this disc is found to be destroyed more frequently than any other. Next in frequency is the one between the fourth and fifth lumbar vertebrae. The first symptoms are thus explained by subluxation of the facets producing nerve root pressure and then sciatic pain develops as irritation of the "funicular" portion of the nerve begins. The appearance of hypertrophic changes adds further to the possibility of nerve root involvement.

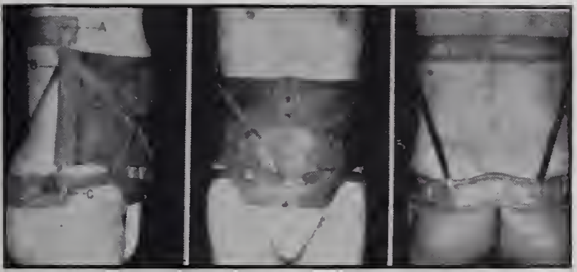

Fig. 5. William's flexion brace.

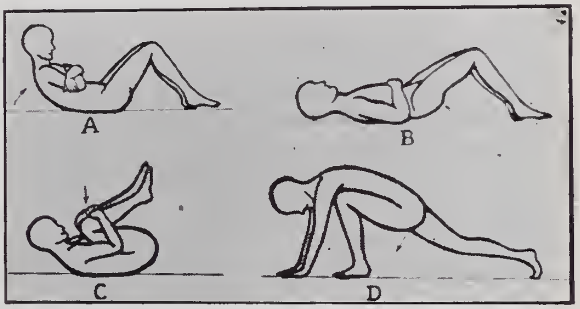

Fig. 6. Flexion exercises.

Due to continued effort in maintaining an erect posture against gravity, our extensor spinal muscles have become over-developed at the expense of our flexor spinal muscles and we have assumed, more or less, the lumbosacral lordotic curve as a result. This principle is the basis of the weakness in this area.

Whether the etiologic factor be acute or chronic trauma we are convinced that we are dealing with an entity which is aggravated by position and is mechanical in nature. The only conceivable differences between the acute traumatic or postural change are that those classified as acute begin to have symptoms at an earlier age and are seen about twice as frequently in men as in women.

Two mechanical principles must be accomplished to relieve either the acute or the chronic condition; a widening of the posterior half of the lumbosacral intervertebral joint space and an elimination of motion at the lumbosacral articulation. A plaster of Paris body jacket is applied with the patient standing and bending forward, resting his weight on his elbows supported by a table, the height of which is at about the same level as the margin of the lower ribs. This position flexes the spine sufficiently to eradicate the lumbosacral lordosis. The cast extends from the scapulae down to about the third sacral segment posteriorly, and down to the superior margin of the pubis anteriorly. This position causes a partial restoration of the posterior width of the lumbosacral intervertebral space.

Most of these patients are then put to bed for a period of ten days or longer and supported so that when lying on their backs, the hips and knees are flexed to about an angle of forty-five degrees. This can be accomplished best in the hospital type bed but can be done with the aid of pillows in an ordinary bed. After the symptoms have subsided the patient is allowed to become ambulatory and continues to wear the cast from one to three more weeks. At this time a brace designed to maintain eradication of the lumbosacral lordosis is substituted for the cast and this is worn for from three to twelve months, with daily removal for physiotherapy. The brace is dispensed with as soon as an eradication of the lumbosacral lordosis has been obtained and can be maintained voluntarily and when the patient thoroughly understands the mechanics of the lesion. For a persistent leg pain a one-half inch lift on the shoe heel on the unaffected side is sometimes used.

For those cases which fail to respond to such conservative treatment over a period of one year, surgical treatment must be considered. This surgical treatment should consist of fixation of the lumbosacral spine by one of the bone graft or fusion operations and removal of the offending facets. Williams reports only thirty-six operations done in one thousand cases treated in this manner.

Patients with chronic postural backache without acute attacks are treated by postural exercises and instructions in positions. An orthopedic corset or flexion brace is added for fixation. Surgical facetectomies and fusions are sometimes necessary in certain cases failing to respond to this treatment. Four postural exercises are advised as shown in the illustration. These exercises are designed to develop actively the anterior abdominal, to contract the gluteus maximus and the hamstring groups, and to stretch passively the sacrospinalis and hip flexor groups.

The patients are further instructed to sit in a somewhat slumped position with the knees higher than the hips if possible, and to stand without arching the back and to lift a load by extending the hips and knees rather than the lumbar spine. They should sleep with the knees and hips fixed. All of these principles are directed towards the restoration of those muscles which are sacrificed by the erect posture.

After using the above conservative program in my practice I am ready to agree with Williams that the need for surgery has been eliminated in most cases of sciatic and low back pain.

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Illustrations used are taken through Dr. Williams' courtesy from his articles listed above as Number 2.

2160 Highland Avenue

Practical Points in the Eye, Ear, Nose and Throat Field*

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Of the many perplexing problems confronting the busy practitioner today, that of keeping abreast of medical progress is perhaps one of the greatest. Today's medicine is an inordinately restless, ever-changing science; a science which exacts its toll in nervous energy spent and in valuable time consumed. Because of its rapid tendencies to change from day to day and year to year it is well-nigh impossible to keep pace with these changes.

With all the new remedies and nostrums flooding the drug markets today, the old Materia Medica is rapidly being shoved aside to be replaced with the high-pressure salesman who details you and attempts to tell you how to dispense his wares. But with all these to choose from, many are of great value and help in eye, ear, nose and throat conditions.

Of all the complex organs of the human body no one organ is the cause of more real anxiety and concern than that of the sick or injured eye. In health we are prone to take our eyes as a matter of course and scarcely realize we have eyes but the minute something goes wrong we are in for some serious thinking and, figuratively speaking, our blood pressure hits the high spots.

Many and varied are the eye affections frequently encountered, and that of iritis, or perhaps more properly irido-cyclitis, is quite a common one. One of the chief etiological factors next to injury is lues or syphilis. Notwithstanding the fact that approximately one-third of those infected with syphilis throw it off or spontaneously rid themselves of it, this disease should always be kept in mind as a possible cause of not only iritis but of many other body ailments. It is well to remember along this line that a blood Wassermann is not always to be fully relied upon but that a spinal is better. However, with the Kline exclusion and other more sensitive serological tests now in use, we feel much surer of our diagnosis than formerly. Other diseases must be distinguished from iritis or irido-cyclitis, notably glaucoma of the acute or conjestive type and a severe infected conjunctivitis.

Atropine, a medicine practically indispensable in iritis, is absolutely contraindicated in glaucoma as it greatly aggravates the condition in the glaucomatous eye. Atropine, or some other good cycloplegic, if not used at the right time in iritis or irido-cyclitis, may well leave a blind eye whereas if used in glaucoma may well leave a blind eye.

In connection with this I am reminded of the fact that one-eyed automobile drivers are so much more handicapped than most of us realize. Investigation of the records shows that only about twenty states in the Union require any check on the visual acuity before issuing drivers licenses, and among those twenty there is no standard requirement as regards vision. The requirements range from approximately two-thirds of a normal to normal or 20/20.

In the normal eye there is a blind spot where the optic nerve enters the eye ball. If both eyes see properly the blind spot does not matter as each eye takes care of the blind spot of the other eye; in other words, anything coming within the blind spot area of one eye is seen by the other eye and the field of vision is uninterrupted. However, if one eye is blind there is a blind area of the other eye of such a degree that sitting behind a steering wheel the blind spot is only a few inches in area at the windshield, but at fifty feet away it is about six feet in area, amply large enough to hide a playing child or even an object as large as a cow. And at seventy-five feet a truck could not be seen in this blind spot. If driving fast think what that might mean.

But, coming back to our main subject, Fermandez reports 14 cases of opthalmia neonatorum treated with sulfanilamide and all retained useful vision, eight cases not even showing any corneal involvement. This is a decided improvement over previous methods of treatment.

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Inasmuch as many of the causes of blindness have their origin before birth, it is incumbent upon the family physician to do his part to give proper knowledge to the prospective mother so that early prenatal care may be had. To see her physician before the third month of pregnancy is all-important. A routine blood examination for our private practice can be had just about as easily as in the larger hospitals, something some of us are inclined to overlook.

It is surprising how many cases of interstitial keratitis and kerato-iritis will be discovered due to lues where the mother hasn't been properly examined and treated. Some of the positive cases naturally will be reported sero-negative but a number of them will be uncovered.

The surgeon general of the United States reported that one out of ten adult persons will some time in his life have syphilis. This at first glance seems a staggering number but when we learn to have routine blood examinations it will be observed that he was not far wrong. Stokes stated that only 66 per cent of cases show a positive blood Wassermann, the others being discovered by careful history-taking, physical examination and other serological tests.

Lesions of the fundus of the eye are due to many varied causes. Some of the general systemic conditions causing observable trouble in the fundus are nephritis, diabetes, hypertension, as well as focal infections such as tonsillitis, sinusitis, diseased gums, etc. One point of trouble frequently overlooked is an old boggy, diseased prostate.

Having a patient complaining of headache for some time, with or without dizziness, don't overlook the possibility of eye strain, paranasal sinusitis, brain tumor; you may be surprised how often brain tumor will be demonstrated under the x-ray.

Operations on the nasal accessory sinuses are not done as much as formerly, but certain conditions still necessitate operation. Scant attention has been paid to fungus infections of the sinuses but recent investigation has shown that they occur oftener than once thought. This condition, as well as osteomyelitis of the skull, frequently requires operation, though in mycotic infections massive doses of potassium iodide are of some help. While operation on the frontal sinus is at times absolutely imperative many cases of the acute type can be relieved by simple fracture of the tip of the middle turbinate to afford better drainage from the naso-frontal duct. This, with the usual intranasal treatment, cures many such infections, though resection of the tip of the turbinate at times becomes necessary. Radical surgery is the last resort.

Chronic purulent ethmoiditis and chronic hypertrophic ethmoiditis are probably responsible for more complications in connection with the eye than that of any other sinus infections; the direct connection of the vascular system of the orbit and ethmoid accounts for many of the complications involving the cornea, sclera, optic nerve and the intraocular parts.

Many of these chronic ethmoidal infections are responsible for the lingering cough so frequently known as chronic bronchitis, because very often there are light rales, some sputum, and not infrequently bronchiectasis.

One point especially I want to mention in connection with the nose, do not lance or open a boil, pimple or furuncle about the nose and, more especially, inside the nose except as a last resort, and don't let there be any last resort. Surgically these infections are much better left alone.

Probably no one condition in the nose is more common and causes more loss of time than the ordinary cold or coryza. Bassler of New York demonstrated to his own satisfaction that the cold can be cured in 91 per cent of cases if seen within the first 12 to 24 hours by simply instilling in the nose one of the organic mercury compounds so that the solution floods the anterior meatus and front of the inferior turbinate, then flows on into the throat. Others have not been so fortunate with it.

The winter months are usually replete with unnumbered cases of middle ear infections, many due to the common cold and influenza but some having the streptococcus as the causative factor. Suppurative middle ear disease is always a source of possible mastoid involvement and mastoiditis is always a dread condition. In cases of scarlet fever and measles, in fact any acute infectious disease of childhood, especially if the temperature goes high, don't overlook examination of the ears. These acute middle ear infections should by all means be relieved by early myringotomy or opening of the drum, not just a simple puncture but a wide incision to give free drainage. The small scar made by the tympanotomy will be negligible as compared with the possible grave loss of hearing, not to mention the probable mastoiditis, caused by the confined inflammation. A child will not complain of earache in proportion to the amount of inflammation as early as an adult will under the same circumstances; therefore, do not wait for complaint but watch the ears, and the temperature.

Fungus growths, or otomycosis, of the external auditory canal are common. These are accompanied by blocking of the canal with pressure on the ear drum, causing loss in hearing and possibly pain. Also causing the same symptoms, wax, or cerumen, is not uncommonly observed in the external canal. If sufficient wax accumulates there may be complete loss of hearing in that ear and marked pain from pressure.

Furunculosis and acute eczema of the auditory canal, and especially furunculosis, may cause extreme pain under certain conditions, such as when the furuncle is deep seated; or if it is eczema, when there is much swelling.

Don't forget that the intensely painful condition known as tic douloureux, or trigeminal (facial) neuralgia, may be caused from infected tonsils. When we remember that the tonsils receive their nerve supply from the posterior and middle palatine branches of the sphenopalatine ganglion and the tonsillar branch of the glossopharyngeal nerve we can easily see that infection of these palatine nerves, which are derived from the trigeminal nerve, might readily cause a reflex trigeminal neuralgia. Also bear in mind that in a troublesome, persistent cough, where there are no detectible chest signs, that the cause may possibly be found in an extremely long uvula.

Because hoarseness is unaccompanied with pain doesn't necessarily mean that the cause is trivial. Some of the most serious lesions of the larynx begin without pain. Any case of hoarseness lingering longer than two or three weeks should certainly have a very careful examination of the larynx. In small children especially, any cough or choking otherwise unexplained should be suspected of having a foreign body in the larynx or esophagus, or most probably in the larynx or trachea.

Now just a few remarks about tonsils and adenoids and I am finished. When a child, or adult for that matter, has infected tonsils or hypertrophied adenoids they should be removed at once. It is surprising how a child responds by gaining weight, improves mentally and gains color after having diseased tonsils and enlarged adenoids removed. Children are not so prone to develop diphtheria if their tonsils are out. No patient should have a tonsillar operation until at least ten days or two weeks have passed after an acute attack. And it is important to remember that all postnasal discharges are not caused from sinus disease, but even in adults may be caused from a piece of infected adenoid which has never been removed.

Peritoneoscopy

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Peritoneoscopy is the direct inspection of the peritoneal cavity by means of an instrument equipped with a system of lenses. Although Kelling[1] first reported the usefulness of such a procedure in 1901 there have been surprisingly few reports on this type of examination, and the medical profession, as a whole, has taken very little cognizance of its merits. Those men who have investigated the subject of peritoneoscopy have published favorable reports, indicating their enthusiasm and satisfaction with the procedure. The author has been unable to find a single report in which this does not hold true. Ruddock[2, 3], who may be credited with the pioneer work in peritoneoscopy in this country, has done well over a thousand cases and has proved beyond question the practicability and usefulness of this type of examination. Benedict[4] published a series of forty-eight cases with excellent results. Others who have written on the subject include Korbsch[5], Hanau[6], Steiner[7], Stone[8], Fervers[9], Anderson[10], Thom[11], and Hope[12]. Thieme[13] recently reported fifty cases and concluded that every teaching hospital should include the peritoneoscope among its diagnostic instruments.

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In an effort to evaluate the procedure, the department of surgery in the John Gaston Hospital decided to adopt peritoneoscopy as one of its services and to investigate its advantages as a diagnostic aid. It was decided that it would be better for one person to be directly responsible for the service and to perform all of the examinations himself. During a five months' period fifty peritoneoscopic examinations were done, and these constitute the present report. In view of the success achieved, peritoneoscopy is now recognized as a valuable diagnostic measure and a permanent consultation service has been established.

VALUE OF THE PROCEDURE

The value of peritoneoscopy rests with the simplicity of the procedure in its application to diagnostic problems. The familiar statement that "it is easy enough to open an abdomen and look in, when the diagnosis is questionable," is true enough for the surgeon, but not so for the patient. Exploratory laparotomy is a major operative procedure entailing from ten days to two weeks hospitalization or longer. In addition, there are the dangers associated with any major operation, notably, pulmonary complications and wound infections. It is well known that even laparotomy in itself usually hastens the exodus of patients with carcinomatosis, and those cases of cirrhosis of the liver and hepatic insufficiency frequently succumb following major surgery. No surgeon wishes to lose a case as a result of an operation, even though the disease in itself would have eventually produced a fatal outcome. In the past it has been necessary to resort to laparotomy in many of these cases in order to make certain that a condition was not present that would be amenable to surgery. Peritoneoscopy obviates a large percentage of these cases and saves much unnecessary surgery. Peritoneoscopy is a minor surgical procedure. Patients are kept in bed for a twenty-four hour period only and from an economic standpoint are saved much expense. The wound itself is just large enough to admit passage of the instrument and can be readily closed with one skin clip. Only local anesthesia is necessary for adults although children will usually require a general anesthetic as for any minor surgical procedure where restraint is necessary. If adequate local infiltration is carried out the pain factor is negligible.

There are several types of cases that lend themselves particularly well to peritoneoscopy. Suspected intraperitoneal malignancies are exceptionally well suited for this type of examination because this group of cases does not respond well to major surgical procedures. The malignancy can be diagnosed readily by vision and any metastases noted. Biopsy may be taken from either the liver nodules, peritoneum, omentum or the original growth itself. Hemorrhage is easily controlled as the Ruddock biopsy forceps permits biopsy under vision and cauterization of the wound in a like manner. It is of considerable value to be able to visualize a suspected malignancy in the peritoneal cavity and determine whether metastases have occurred. One may gain a concrete idea of operability and make plans accordingly.

Enlarged livers offer a wide diagnostic field. The question of cirrhosis, congestion, or metastatic malignancy may be settled at a glance. The peritoneoscopist is particularly able to render service in this group of cases. Jaundice may be a real task for the clinician to classify. The problem of whether a painless jaundice is medical or entitled to surgical attention may be quite difficult to solve. Peritoneoscopy, while not being one hundred per cent accurate in this group, usually is able to give sufficient information so that intelligent treatment may be carried out. A hobnail liver revealed at peritoneoscopy clarifies the diagnosis. A smooth, bile-stained liver with a gall bladder of normal size and color makes either common duct stone or malignancy of the bile ducts improbable. The stomach and usually the first portion of the duodenum may be examined. Transillumination of the stomach has not proved very satisfactory in our hands. With the patient in the supine position the spleen is not visible except when enlarged, but by manipulating the patient so that the right side is down and the air bubble gravitates to the upper left side, the spleen can be brought into view. The female pelvic organs are readily visualized and Trendelenburg position combined with manipulation by an assistant frequently aids materially in bringing the adnexae into view. Masses in the abdomen are sometimes difficult to diagnose accurately but the question of benignity or malignancy may be settled and operability determined. It is frequently difficult to distinguish a cyst from an abscess as both may reveal distinct capsules with large blood vessels coursing in its walls, however, this same error may be made at laparotomy and the true diagnosis not determined until the mass is sectioned.

DISCUSSION OF CASES

In reviewing our series of cases we find that the majority of the cases fall into five groups, namely:

1. Abdominal masses.
2. Stomach and duodenal pathology.
3. Biliary tract disease.
4. Abdominal malignancies.
5. Tuberculous peritonitis.

1. Abdominal Masses: There were ten cases of abdominal masses. Of these the diagnosis was suggested clinically in four cases and either incorrect or not attempted in six cases. The peritoneoscopic diagnosis was incorrect in two instances, in one, the masses diagnosed peritoneoscopically as ovarian cysts were revealed at laparotomy to be tubo-ovarian abscesses. In the other, a diagnosed ovarian cyst at laparotomy was found to be a degenerated pedunculated fibroid. The true diagnosis of the degenerated fibroid was not learned even at laparotomy until the mass had been removed and opened. One of the most interesting cases in our series was that of an undiagnosed upper abdominal mass which was thought to be in the liver. On peritoneoscopy this mass was found to be adherent to the liver, but definitely retroperitoneal. It was recalled after viewing this mass that the patient had hirsutism, hypertension and other signs of masculinization and a probable diagnosis of adrenal carcinoma was made. This diagnosis was verified later at laparotomy. This patient had not been considered surgical until peritoneoscopy was resorted to.

2. Stomach and Duodenal Pathology: Ten cases of questionable pathology of the stomach and duodenum were examined. The clinical diagnosis was accurate in five cases while the peritoneoscope gave an accurate diagnosis in nine cases. We were unable satisfactorily to examine the stomach in one case because of adherent omentum. In one instance a clinically diagnosed gastric ulcer in a twenty-seven-year-old male was diagnosed peritoneoscopically as a sarcoma of the stomach and later biopsy of an enlarged inguinal lymph node revealed a metastatic sarcoma. Laparotomy was advised against.

3. Biliary Tract Disease: Our largest series was that of chronic biliary tract disease. There were eighteen cases studied. The clinical diagnosis was accurate in ten cases. The peritoneoscopic was accurate in all cases. In several instances cirrhosis of the liver was demonstrated where it was not thought to exist clinically, while clinically diagnosed cirrhoses were proved to be other conditions.

4. Abdominal Malignancies: In this group the peritoneoscopic diagnosis was made correctly in all seven cases. The peritoneoscope is particularly helpful in this type of case as operability may be determined. In one case a suspected malignant abdominal mass was found on peritoneoscopy to be benign, arising from the pelvis and laparotomy was performed with successful outcome.

5. Tuberculous Peritonitis: Two cases were examined. One, a supposed hydrops of the gall bladder was revealed as an old tuberculous process, the other, a clinically diagnosed tuberculous peritonitis was negative on peritoneoscopy.

TECHNIQUE

The peritoneoscope devised and popularized by Ruddock is the instrument that we are using. It has proved satisfactory and is relatively easy to manipulate. The actual technique of peritoneoscopy is not difficult and one may become quite adept with the instrument after a few procedures have been carried out. It requires several examinations to acquaint the observer with the lens system and to enable him to manipulate the instrument in the peritoneal cavity as desired. A knowledge of pathology, however, is essential for interpretation of the findings. On looking into the peritoneoscope for the first time one is impressed with the clarity of vision and the beauty of natural colors seen. No especial preparation is necessary before the examination other than to omit food approximately six hours previously and to give a narcotic, preferably morphine, forty-five minutes before the procedure. Careful local infiltration of the point of entry is carried out and a one cm. incision is made, usually in the midline below the umbilicus. The incision may, however, be varied as necessity demands, depending upon existing scars and large masses.

We have made it a practice to nick the anterior rectus fascia in that it facilitates passage of the trochar. The peritoneal cavity is inflated with atmospheric air and the cannula inserted through the same wound. After removing the trochar and inserting the telescope the examination may begin. A complete systematic examination is preferable, beginning at the point of expected pathology, completely encircling the peritoneal cavity and then back to the site of pathology for a more detailed examination. Individuals with ptosed organs frequently reveal stomachs completely covered by liver or deep-seated gall bladders hidden from view behind the liver edge. After a little experience has been gained it becomes relatively easy to lift the edge of the liver with the instrument and bring the gall bladder, stomach, and first portion of the duodenum into view. After the examination is completed the air is evacuated and the instrument withdrawn. One or two skin clips suffice to close the skin wound and the patient is returned to bed for twenty-four hours, following which he may be allowed to resume his activities.

COMPLICATIONS

There was one complication in our series of fifty cases. The patient, an elderly woman, was markedly cachectic and almost moribund from suspected abdominal malignancy. The pneumoperitoneum needle entered the transverse colon and was at once recognized as having done so as air used in the attempt to insufflate the peritoneal cavity was immediately expelled at the rectum. The needle was withdrawn and no further efforts were made to continue with the procedure. Ruddock's[3] experience in such cases in which explorations were done revealed that in each instance the needle entered a loop of intestine adherent to the peritoneum and laparotomy was unnecessary as peritoneal soiling would not have occurred.

In view of this observation and because the patient's general condition was so poor, exploration was not done and it was gratifying to find that peritonitis did not occur and there was not even an elevation of temperature. Hence, in our series of fifty cases there was one accident, but no mortality. Pneumoperitoneum in itself caused very little discomfort, but rather a sense of pressure when the abdomen was inflated too tightly. Patients would complain of pain when the instrument struck organs in the peritoneal cavity or was forced against un-anesthetized peritoneum. No persistent shoulder pains from air were noted. Occasional slight subcutaneous emphysema occurred from air forced in before the peritoneal cavity was penetrated, however, this caused very little discomfort. No wound hematomata or herniae were noted in any cases. Those patients laparotomized were carefully inspected for adhesions at the peritoneoscopic wound but none was found in any of the cases.

SUMMARY

An analysis of fifty cases of peritoneoscopy is presented. In this series there was only one accident but no mortality. We feel that the procedure is a safe one attended by almost negligible risk. Peritoneoscopy may be relied upon to give an accurate diagnosis in the majority of cases. It is a minor surgical procedure which requires only one day hospitalization and has none of the dangers associated with laparotomy. Peritoneoscopy does not do away with surgery but rather diminishes the amount of useless surgery; on the other hand, it reveals many cases to be of surgical nature which were not suspected beforehand. Peritoneoscopy is not a fad or passing fancy but a reliable, diagnostic procedure which has been placed on a permanent basis in the John Gaston Hospital.

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Case	Age	Clinical Diagnosis	Indications for Peritoneoscopy	Peritoneoscopic Diagnosis	Complications	Course
1 E.B.	44	Intra-abdominal malignancy, pregnant uterus.	Identification of football size mass in right upper quadrant.	Large ovarian cyst in right upper quadrant. Pregnant uterus with fibroid.	None	Laparotomy—removal of large degenerated fibroid in right upper quadrant. Later aborted. Subsequent course satisfactory.
2 A.F.	56	Early cirrhosis of liver.	Diagnosis.	Negative abdomen.	None	Discharged.
3 C.K.	61	Cirrhosis of liver.	Diagnosis.	Cirrhosis of liver.	None	Discharged.
4 H.M.	52	Cirrhosis of liver.	Diagnosis.	Cirrhosis of liver, chronic cholecystitis.	None	Discharged.
5 J.G.	71	Duodenal ulcer	Operability.	Duodenal ulcer-old, moderate deformity with adhesions.	None	Conservative therapy. No pyloric obstruction. Discharged.
6 M.J.	46	Pelvic masses.	Diagnosis.	Multilocular ovarian cysts.	None	Laparotomy—bilateral tubo-ovarian abscesses. Uneventful course.
7 A.B.	56	Fibroid uterus.	Diagnosis.	Fibroid uterus.	None	Hysterectomy. Uneventful course.
8 F.R.	50	Possible peptic ulcer.	Diagnosis. History of ulcer with negative x-ray findings.	Negative abdomen.	None	Discharged, medical therapy.
9 B.C.	27	Splenomegaly.	Large spleen, no symptoms, negative blood.	Light slate colored spleen, normal liver, probable malarial splenomegaly.	None	Discharged.
10 L.M.	48	Possible peptic ulcer.	Negative x-ray findings. Diagnosis.	Negative stomach and duodenum, fibroid uterus.	None	Hysterectomy. Uneventful course.
11 A.P.	54	Metastatic malignancy of liver.	Diagnosis.	Primary carcinoma of gall bladder, metastatic malignancy of liver, peritoneum and omentum.	None	Died ten days. Autopsy not granted.

Case	Age	Clinical Diagnosis	Indications for Peritoneoscopy	Peritoneoscopic Diagnosis	Complications	Course
12 A.E.	53	Carcinoma of splenic flexure of colon.	Operability.	Carcinoma of splenic flexures. No visible metastases	None	Laparotomy, Devine colostomy, resection of lesion. Subsequent course uneventful.
13 L.A.	23	Hydrops of gall bladder.	Palpable mass in right upper quadrant. Diagnosis.	Partially calcified mass in peritoneum. Several other calcific deposits. Probable old tuberculous peritonitis healed.	None	Discharged, no complaints.
14 F.S.	46	Acute catarrhal jaundice.	Diagnosis.	Early cirrhosis of liver.	None	Discharged.
15		Gastric ulcer.	Diagnosis. Question of malignancy.	Sarcoma of stomach. Inoperable.	None	Enlarged inguinal lymph nodes later appeared and were biopsied. Diagnosis, metastatic sarcoma. Died 3 weeks later. No autopsy.
16 S.D.	49	Cirrhosis of liver.	Diagnosis.	Early cirrhosis of liver.	None	Discharged.
17 E.C.	72	Peptic ulcer.	Peptic ulcer history with negative findings. Diagnosis.	Abdominal carcinomatosis. Primary source undetermined.	None	Discharged.
18 V.Y.	42	Chronic cholecystitis.	Diagnosis.	Chronic cholecystitis.	None	Laparotomy—chronic cholecystitis with stones in gall bladder and common duct. Uneventful course.
19 N.R.	31	Upper abdominal pain, no diagnosis.	Diagnosis.	Chronic pelvic inflammatory disease with violin string adhesions of liver.	None	Discharged, no operation.
20 J.S.	33	Jaundice.	Diagnosis.	Acute catarrhal jaundice.	None	Discharged, improved.
21 A.M.	61	Carcinoma of stomach.	Operability.	Carcinoma of stomach with generalized abdominal metastases. Inoperable.	None	Died three weeks.

Case	Age	Clinical Diagnosis	Indications for Peritoneoscopy	Peritoneoscopic Diagnosis	Complications	Course
22 G.S.	44	Mass in right upper quadrant.	Diagnosis.	Retroperitoneal mass, malignant tumor of adrenal. (Hirsutism, hypertension, etc.)	None	Laparotomy — carcinoma of right adrenal. Died 48 hours. Autopsy, metastases to lung, hypoplasia of left adrenal.
23 W.M.	28	Jaundice.	Diagnosis.	Acute catarrhal jaundice.	None	Discharged, improved.
24 L.P.	51	Enlarged liver.	Diagnosis.	Early cirrhosis of liver.	None	Discharged.
25 H.H.	55	Duodenal ulcer.	Operability.	Duodenal ulcer-old, adhesions between duodenum, gall bladder and transverse colon.	None	Refused operation.
26 A.P.	46	Syphilis with gastric crises.	Severe attacks for years. To definitely exclude organic pathology.	Negative abdomen.	None	No change in condition.
27 W.Y.	36	Acute catarrhal jaundice.	Diagnosis.	Acute catarrhal jaundice.	None	Discharged, improved.
28 W.B.	29	Slowly perforating peptic ulcer.	Fever for one month after symptoms subsided. Corroboration of diagnosis.	Chronic perforating duodenal ulcer. (Stomach and duodenum enveloped by adhesions.)	None	Temperature dropped to normal the day following peritoneoscopy. Discharged, improved.
29 M.P.	31	Jaundice.	Diagnosis.	Acute catarrhal jaundice.	None	Discharged, improved.
30 L.W.	13	Possible tuberculous peritonitis.	Diagnosis.	Negative abdomen.	None	Discharged, improved.
31 W.L.	33	Obstructive jaundice.	Diagnosis.	Early cirrhosis, normal gall bladder, probable luetic cirrhosis.	None	Discharged, no surgery performed.
32 M.F.	68	Cirrhosis-ascites.	Diagnosis.	Normal liver, no ascites, adhesions in appendiceal region.	None	Discharged.

Case	Age	Clinical Diagnosis	Indications for Peritoneoscopy	Peritoneoscopic Diagnosis	Complications	Course
33 M.L.	8	Cirrhosis of liver. (Wilson's disease).	Diagnosis.	Normal liver, no ascites.	None	Discharged.
34 L.W.	50	Carcinoma of liver.	Diagnosis.	Carcinoma of liver, possibly primary.	None	Discharged, living. at present time.
35 A.M.	56	Mass in right upper quadrant.	Diagnosis.	Incomplete volvulus of cecum and ascending colon.	None	Responded to conservative management, mass disappeared.
36 O.S.	35	Myeloid leukemia, splenomegaly, additional mass in left upper quadrant.	Diagnosis.	Splenomegaly. Peculiar mass in left upper quadrant was liver distorted by huge spleen, liver normal.	None	No improvement, gradually losing ground.
37 C.F.	65	Utero-sigmoidal fistula, probable carcinoma of uterus.	Operability. Metastases.	Sigmoid adherent to fundus of enlarged uterus, no visible evidence of malignancy.	None	Laparotomy — no metastases noted, Devine colostomy. Hysterectomy and resection of colon to be done later.
38 C.G.	70	Scirrhus carcinoma of stomach.	Operability.	Stomach covered and fixed by omentum, unable to visualize the organ.	None	No surgery, died 2 weeks, no autopsy.
39 R.B.	56	Gastric ulcer.	To determine possibility of malignancy.	Gastric ulcer, no evidence of malignancy.	None	Medical régime, improvement.
40 C.J.	70	Abdominal malignancy.	Diagnosis.	General peritoneal carcinomatosis.	None	Discharged, died one week.
41 R.H.	71	Carcinoma of pancreas.	Diagnosis.	Carcinoma of pancreas with metastases to liver and peritoneum.	None	Discharged, living one month later.
42 J.H.	42	Pelvic mass.	Diagnosis.	Extra-peritoneal mass probable carcinoma of prostate. No metastases.	None	Discharged to urology service.
43 T.D.	3	Abdominal mass, tumor of kidney.	Diagnosis operability.	Retroperitoneal tumor, probable Wilm's tumor of kidney. No metastases.	None	Receiving preoperative radiation in preparation for nephrectomy.

Case	Age	Clinical Diagnosis	Indications for Peritoneoscopy	Peritoneoscopic Diagnosis	Complications	Course
44 N.R.	42	Carcinoma of ovary	Diagnosis operability.	Carcinoma of ovary with general peritoneal metastases, ascites.	None	Unoperated, no change in condition.
45 L.M.	44	Possible Meckle's diverticulitis. (x-ray diagnosis).	Diagnosis.	Adhesions around gall bladder and duodenum, no other findings.	None	Laparotomy — posterior wall duodenal ulcer, pyloroplasty. Improvement.
46 S.C.	25	Large ovarian cyst.	Diagnosis of pelvic mass.	Ovarian cyst.	None	Laparotomy — large ovarian cyst removed. Improvement.
47 W.C.	64	Enlarged liver.	Diagnosis.	Metastatic carcinoma of liver, peritoneum and omentum. Primary unknown.	None	Discharged.
48 E.W.	45	Abdominal malignancy.	Diagnosis.	No diagnosis.	Perforation of transverse colon with pneumoperitoneum needle.	Patient practically moribund at time of examination. Died several days later of cachexia. No peritonitis.
49 E.G.	48	Mass in pelvis.	Diagnosis operability.	General peritoneal carcinomatosis, undifferentiated, pelvic mass, probably carcinoma of ovary.	None	Unoperated, discharged.
50 J.Y.	25	Jaundice.	Diagnosis.	Toxic jaundice. Liver, spleen normal.	None	Discharged, improved.

Headache Due to the Use of Vitamin B-1 in the Treatment of Progressive Deafness, Report of a Case*

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VERY LITTLE has been written about the allergic properties of Vitamin B-1. A substance as powerful and potent as this vitamin is certain to be toxic to a large number of patients, even though such cases have not been reported.

Vorhaus[1] reported a large series of cases of polyneuritis treated with massive doses of vitamin B-1 with no ill effects. He stated, however, that some of his cases suffered a temporary aggravation of their symptoms for the first three to five days. Large doses were well tolerated because the excess was excreted by the kidneys. This author suggests the use of B-1 in the treatment of optic and auditory neuritis, as well as in trigeminal neuralgia. He reported five cases of trigeminal neuralgia relieved by the use of B-1. Two of these cases had previously been treated with alcohol injections with unsatisfactory results.

Time Magazine reports the use of B-1 as a specific for trigeminal neuralgia in the May 8 number.

Steinberg[2] reported three cases of herpes zoster from the use of vitamin B-1. It is interesting to note that two of Steinberg's cases had a sense of constriction in the throat, as well as herpes.

Selfridge[3] reported good results from the use of vitamin B-1 in the treatment of high tone nerve deafness. In one case he mentions the fact that following the first six or eight injections (of Lilly's B-1 solution) there was a feeling of congestion in the head with a headache that lasted an hour or two. There was no other evidence of protein shick.

CASE REPORT

Mrs. O. W. B., age 70, 62 inches tall, wt. 160, consulted me in August, 1938, because of headaches.

General History: The patient gave a long outline of her ailments, indigestion, constipation, general weakness. She had been examined by several well-known clinics. She was being treated for anemia, low blood pressure, low thyroid activity, and 'nervousness.'

Special History: Two weeks ago she began to have headaches in the front of her head and behind her ears. She wondered if she could have a mastoiditis; her son had had two operations on his mastoids. She did not complain of a cold nor of any discharge from her nose or throat. One ear had been deaf since childhood, cause unknown; the left ear began to fail two years ago. For the past ten months she had been taking thyroid and vitamin B-1 for her nerve deafness.

Examination revealed no evidence of infection in her ear, nose or throat. The middle turbinates were slightly in contact with the septum on each side; no excess mucous, no pus; the eustachain tubes were open to gentle air pressure; tonsils out clean, no granular pharyngitis; air conduction better than bone conduction in each ear.

Treatment: The nasal membranes were cocainized and her headache was relieved temporarily. She was placed on a modified nonallergic diet (Rowe) and treated daily for five days without results other than relief for an hour or two. Thyroid and vitamins were omitted for the next five days. In twenty-four hours her pains were abolished. She was then allowed to eat as she pleased but kept off her vitamin. One week later vitamin B-1 was added in the same doses she was previously taking (300 units three times a day). Her pains returned in twenty-four hours and she left off the vitamin B-1 of her own accord. Without the B-1 she was again relieved. I have been unable to persuade her to take the vitamins again, but she did begin her thyroid extract and has had no headache.

Discussion: The fact that she was relieved the first time might have been due to her limited diet; but when the vitamin B-1 was added without changing her diet and her headache returned it was not due to diet. And the fact that her headache was again relieved by the omission of vitamin B-1 and she was allowed to eat as she pleased substantiates our deduction that B-1 was the offender.

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*Read before the Section on Eye, Ear, Nose and Mississippi State Medical Association, May 9, 1939, Gulfport, Mississippi.

This case shows that vitamin B-1 is capable of causing a headache, probably allergic in character. There was some swelling in the nose; Selfridge's case had congestion in the nose with a temporary headache. Steinberg's cases had a sense of constriction in the throat which might serve as the beginning of asthma in an asthmatic individual. It seems to be a logical deduction that allergic patients who have headaches or asthma might have their symptoms made worse by, or even produced by, this vitamin.

Vitamin B-1 is considered essential to life. It might be said that a person sensitive to B-1 could not survive because this would be incompatible with life. Before reaching such dire conclusions one must consider the fact that this patient was able to eat a liberal diet without ill effect in the nature of a headache, although she was not considered in the best of health. The diluted states of the B-1 in foods, the combination with other substances might have counteracted some of its ill effect. The thought suggests itself that vitamin B-1 could be made non-toxic, or at least less toxic by combining it with some other substance. (Ephedrine is given with amytal so that there will not be so much nervousness).

Conclusions

1. Vitamin B-1 is capable of producing a headache.

2. Migrains, asthma, hay fever may be made worse in certain cases by its use.

3. A case of vitamin B-1 headache is reported.

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DISCUSSION

Dr. Hugh Johnston (Vicksburg): Men who have done work on this vitamin claim that this vitamin B complex is something we do not know everything about. They treat these vitamin deficiencies not only with vitamin B-1 but they add the other vitamin B substances with it. Until we know more about this substance we should follow their advice.

Dr. J. C. Pegues (Greenwood): I just reported one case but I have had three other cases of headaches which were caused by the use of vitamin B-1. I have another case, that of a lady working in my office. She developed what we thought to be a cystitis or a pyelitis, with frequency of urination. She had to get up all hours of the night. I suggested casually to her that she leave off her vitamin B-1 and she obtained relief in three or four days.

Since that time I have given vitamin B-1 to an elderly patient. He reported that he had to cut down on vitamin B-1 also. I, myself, previous to about one year ago, had never been able to take these A.B.D. capsules. I paid little attention to it. In two or three hours I will have a headache. It is due to the B in there. I thought it did not amount to anything because I was a little peculiar myself.

Several Procedures in the Management of Cervical Diseases and Injuries*

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THERE is no part of the anatomy which, considering its accessibility, is more often apt to be incompletely treated than the cervix uteri.

Its histological structure is fairly simple. As we all remember, the vaginal portion of the uterus is covered with several layers of stratified squamous epithelium and this merges into the os of the cervix. From the os and running usually one inch is the cervical canal, where is found a single row of columnar epithelium. This epithelium dips down into the connective tissues and forms many natural secreting acini. The whole gross thickness of this functional tissue is not over one-eighth of an inch. This is mentioned to show that any and all parts of the cervix can be treated easily.

Cervical disease is either specific or non-specific. In the class of specific infections would most generally be found gonorrheal cervicitis, luetic conditions, tuberculosis, and trichinoma. The non-specific infections could be due to practically any bacteria capable of producing inflammation elsewhere in the body; but those most frequently seen are staphylococci, pneumococci, streptococci, B. coli, and mucosus capsulatus.

The main reaction to any of these invasions, whether specific or non-specific, is an unnatural discharge. This discharge, depending upon the causative agent and the duration of the condition, may be mucous (catarrhal) purulent, sero-purulent, or bloody.

A simple low grade non-specific cervicitis will show a leukorrheal or catarrhal discharge, which will sometimes go on for months or even years before the patient seeks advice and examination. Frequently a patient will consult the physician because the purulent or sero-purulent discharge from a g.c. cervicitis has caused an excoriation of the vulva. In g.c. cervicitis, easily identified by gram-negative smears, and a fairly pertinent history, the treatments are as numerous as there are officers in the Mexican army.

Simple douches with a mild antiseptic solution, lavage of the vulva and the occasional instillation of a 4 to 6 per cent solution of argyrol or solargentum, with a special bulb syringe, will, in nearly every case, have the infection in a much cooler or more chronic state in seven to fourteen days. Of course, in the last four years, many doctors have found a gonococcus filtrate beneficial and also the administration of sulfanilamide up to tolerance.

In every g.c. cervicitis after the acute stage has subsided, it is our custom to electrocoagulate the external os and also as much of the endo-cervical tissue as we feel is needed. The follow-ups in all cases seen early have been most encouraging as there have been only a few instances in which salpingitis developed.

After fulguration the patient is told to douche twice a day, and she is examined with a bi-valve speculum twice a week.

The non-specific infections are handled in virtually the same manner. When streptococci are suspected a smear is made and, if positive, sulfanilamide is administered as tolerated.

After the infection has cooled, using the monopolar electrode, the cervix and endocervix are then fulgurated. The cervix is then examined bi-weekly for four weeks, after which time the patient is usually healed.

I believe there have been more products on the market in the last few years, for treating trichinoma vaginalis, than for any other particular entity. The reason I mention this along with cervical disease is because very often the cervix is also infected.

We have been most successful in the past year by using a hexylresorcinol jelly. The patient can be taught how to instill this jelly and usually will have healed almost 100 per cent in two to four weeks. I would like to mention here that a good idea, if you expect the patient to remain cured, is to advise that this jelly be instilled before coitus for several months. It is known that the male frequently harbors the trichinoma in the urethra, and it is very possible that it is in this manner so many patients become reinfected. However, if the male himself doesn't become reinfected, then the condition in the male urethra is usually limited to from twenty to thirty days.

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*Read before the Section on Medicine at the seventy-second annual session of the Mississippi State Medical Association, Gulfport, Miss., May 11, 1939.

This table shows 511 cases of cervicitis seen in the past thirteen years and is divided into the following groups: non-specific and gonorrheal.

Of the 511 cases just described, the complications were very few. In the non-specific group only 2 had salpingitis and 1 had a hemorrhage, while in the gonorrheal group 15 had salpingitis, and 1 had a hemorrhage. The hemorrhage in both cases was not severe.

In the 511 cases there were 33 which had syphilis as well as the cervicitis. Needless to say, rigid anti-luetic treatment was instituted in these cases and healing, after fulguration, was just as normal as in the remaining 478. It will also be noted that the group chronic cervicitis, with healed lacerations, some erosion

NON-SPECIFIC GROUP

Description of type of cervix found on initial examination	Acute, subacute and chronic cervicitis without laceration	Chronic cervicitis without laceration and with eversion and thickening	Chronic cervicitis with healed laceration. Some erosion and eversion	Chronic cervicitis with old lacerations badly healed and with eversion, thickening and varying amounts of ulceration
Type of Infection,				
Non-specific No. of cases	36	35	49	86
Gonorrheal No. of cases	115	62	74	64
No. of treatments with fulguration current of diathermy	151 cases and 151 treatments	97 cases and 97 treatments	123 cases and 137 treatments. 14 were given a second time.	140 cases and 148 treatments. 8 cases were given second time.
No. of days spent in bed after fulguration	140 cases no time in bed. 3 cases spent 1 day in bed. 2 cases spent 2 days in bed.	90 cases spent no time in bed. 3 cases spent 1 day in bed	130 cases spent no time in bed. 3 cases spent 1 day in bed.	130 spent no days in bed. 6 spent 1 day in bed.
Av. no. of days elapsed before healing	Average 30 days	Average 30 days	Average 48 days	Average 42 days
Complications:				
Pelvic Cellulitis No. of cases	one 10 days	one 3 weeks	0	0
Salpingitis No. of cases	five 2½ weeks	three 2½ weeks	four 3 weeks	four 2½ weeks
Syphilis No. of cases	12	8	6	7
Hemorrhage No. of cases	0	0	1 no time in bed	1 no time in bed

POSTPARTUM GROUP

Description of type of cervix found on initial examination	This cervix 8 weeks after delivery has healed with virtually no laceration and only erosion is present	This cervix 8 weeks after delivery shows moderate laceration with varying degrees of erosion and eversion	This cervix 8 weeks after delivery shows more lacerations, erosion, eversion, and in some instances: a. with cyst formation; b. a condition in which a rolling out of the endo-cervical mucosa has caused a widening and thickening of the cervix, producing a heavy rounded appearance and obscuring the lacerations to some extent; c. with ulcer formation.
No. of cases (T for treatment)	50	163	112 a. 40 cases b. 32 cases c. 40 cases
No. of treatments with the fulguration current	50 cases 50 treatments	163 cases 175 treatments 8 cases were given a second T.	a. cases 38 had 1 T. 2 had 2 T. b. cases 20 had 1 T. 8 had 2 T. 4 had 3 T. c. cases 36 had 1 T. 4 had 2 T.
No. of days spent in bed after fulguration	48 cases and no time spent in bed	163 cases and 150 spent no time in bed. 8 spent 1 day in bed and 4 spent 2 too 3 days in bed	112 cases and 97 spent no days in bed. 4 spent 1 day, 2 spent 2 days, 5 spent 3 days and 1 spent 10 days.
Average no. of days elapsed before healing	Average 30 days	Average 32 days	Average 43 days
Complications:			
Pelvic inflammation	1 spent 5 days in bed.		1 spent 6 days in bed
Salpingitis	1 spent 3 wks. in bed	1 spent 2½ wks. in bed	2 spent 1 month in bed 2 spent 3 weeks in bed
Syphilis	2	1	3
Hemorrhage			1 spent no time in bed
Gonorrhea		1	3

and eversion in both the non-specific and specific groups required more days to heal. The only way I can account for this is that this cervix had never been seriously damaged, while the group with severe lacerations badly healed had undoubtedly harbored a chronic infection for some months or years and there was present at that time some immunity to any kind of further infection or treatment.

I will discuss the hemorrhage angle after my second series.

The symptoms of cervical polypi vary from a small spotting to an almost profuse hemorrhage. The patient will frequently say that the flow is very red and will even give a history of having menstruated for several months. I saw one patient who complained of having started menstruating again after a successful menopause five years before. On examination a polyp was found the size of a large grape to be extruded through the external os. This was snared off and the base fulgurated with the diathermy. The polyp was sent to a pathologist, and the patient made an uneventful recovery.

All polyps should be sent to a pathologist as it is a known fact that a small percentage of these is malignant.

Another type of growth seen and felt in the cervix is the fibroid. These are founded, smooth and fairly hard, although occasionally they have undergone degeneration and are soft in places to the touch. If in the cervix alone and not extending into the broad ligaments or into the corpus uteri, they can be removed by amputation of the cervix. If the patient is in the fourth decade of life and objects to an operation, deep therapy will take care of these conditions very well.

If the fibroids feel too hard and are not quite as smooth as they should be, also if there is the evidence of ulceration and increased vascularity, one should consider a high amputation and the sending of the entire mass to the pathologist. I once heard C. Jeff Miller say that the longer a fibroid remained untreated, the greater the possibility of its becoming cancerous. Why argue on fibroids of the cervix—use deep therapy in special cases and remove the rest by a high cervical amputation.

A man's mother-in-law died when he was in a distant city. The undertaker wired him: "Shall I embalm, cremate or bury her?" To which he replied: "Embalm, cremate and bury her." Take no chances."

And so with these non-malignant growths, let's form a habit of taking no chances. The greatest use of diathermy may be found in fulguration of the lacerated, eroded, everted and ulcerated cervix. In 325 postpartal cases, we have compiled the following statistics:

In the 325 cases of the post partal group only 6 were found to have syphilis; there were only 2 cases of pelvic reaction, which was just a moderate amount of parametritis. There were 4 cases of salpingitis and 4 cases of gonorrhea. None of these reactions was severe and the worst case only spent ten days in bed, while the 4 cases of salpingitis averaged 22 days in bed. There was only one hemorrhage after fulguration and it was very slight. It will be noted here that the group with the most damage to the cervix averaged the greater number of days in bed and also to a healed epithelial surface. I believe this is because in this type the lacerations are often partly concealed by the rolling out of the endocervix and the unnatural thickening of the whole segment.

When we realize that we are dealing with this type, it is our custom to fulgurate a little deeper, especially at the corners. The advantages in treatment which diathermy offers are:

1. It is an office procedure and requires no anaesthesia.
2. The coagulated tissue after undergoing a very mild slough, or, in lighter treatments, just a heavy-weeping, all of which is hygienically controlled by douches, heals back to a normal epithelial surface in four to six weeks.
3. It is economically sound as it saves the patient a hospital bill, and this means that maybe occasionally the doctor will collect a fee.
4. It does not cause atresia of the cervical canal. In both series at no examination made, even years later, was a single case of atresia found.
5. It is not followed by hemorrhage as will be noted there were only 3 hemorrhages in the entire 835 cases. All of these were in cervices where the lacerations were deep, badly healed, thickened or ulcers had formed. It might be added here that all of these hemorrhages were easily controlled by wiping off the raw surface with 50 per cent glacial acetic acid. In no instance was the hemorrhage of any undue severity and the patients lost no time in bed.

While, in the course of years, I have lost track of some of these people, still a very large percentage of them, either through habit or a blind loyalty, have remained my patients, and, though I have treated them for other conditions, I have noticed that their cervical disease or injury has remained cured.

Of 373 patients, over a period of 13 years, 116 have been examined at yearly intervals. 106 have had at least 3 examinations, and 43 have had 1 or 2 examinations. None has shown any further disease or inflammatory reaction. The remaining 108 have not been examined since their discharge, which was allowed 4 to 6 weeks after their last fulguration treatment. Unofficially, however, I have questioned 63 of this 108 at different times and they all have told me that they had had no further trouble. This leaves 45 unaccounted for, and I think the main reason I haven't heard from them is because they still owe me.

Due to the constant and excellent exhortation read in the current literature and heard in the postgraduate assemblies, we have fallen in line with the careful policy of sending any slightly suspicious tissue to the pathologist. We are encouraged in this procedure when we read or hear articles such as the one on biopsies, which Dr. Lippincott of our state society delivered last year.

When the patient is 35 years or younger, the hereditary history is negative, and all signs only reveal a chronic cervicitis without much previous injury, then the tissue is fulgurated and no biopsy is made.

When there are lacerations of several years' duration, the cervix is the "ball type" and there is ulceration in the corners of the old lacerations, the vascularity of the tissues is increased or leukoplakia is present, then a biopsy is done. If the biopsy is negative, the tissues are fulgurated without further delay.

Any patient beyond the age of 35 is usually biopsied before anything else is done.

When an extensive biopsy is necessary, our plan has been to hospitalize and operate, using ether in most cases for anaesthesia. In these cases we do an amputation of the cervix at the upper and middle thirds. The stump is sponged and the bleeding points are fulgurated and also the remaining portion of the endocervix. The raw surface is then covered by using the Sturmdorf suture.

After extensive reading I am convinced that a deep conization, according to the technique outlined by Hyams and modified by Crossen, is a better general procedure than ours. But our actual aim is achieved either way and that is: "When the operation is over, the functional cervical tissue is destroyed and a large piece is retained for the pathologist."

By routine biopsy on 59 cases, Wollner discovered early cancer in 2; and both patients were irradiated and cured.

My series is not large but this much can be said: Out of 52 cases biopsied, (many seem much later than those described by Wollner), we have discovered one squamous cell carcinoma and one adenocarcinoma, and six showed a leukoplakia.

The adenocarcinoma case was discovered too late; but the squamous cell case was found soon after it had started. The patient was given full-time treatment by a competent radiologist and she is still living. This squamous cell case was a grade 3 and it was found 22 months ago.

The 6 leukoplakia cases healed perfectly following deep fulguration.

The ideas of 10 years ago are rapidly changing and soon hardly any surgeon will do a hysterectomy, when cancer is discovered in the cervix; but will turn the patient over to a competent radiologist. I quote an excerpt from a letter written to Dr. Livingston by Dr. H. S. Crossen of St. Louis, Missouri.

> "But as a method of choice in handling cancer of the cervix today, radical operation as opposed to irradiation is a back number and an obsolete method."

Through improved technique and superior equipment, the radiologists are increasing the 5-year cures from 22.5 per cent in 1927 to 48, 55, and even 68 per cent of cases, diagnosed early and not graded any heavier than 2. They are even getting remarkable results on cases of a more serious grading.

There is an almost universal concensus of opinion among the radiologists that the best chance of cure in cervical cancer is to be found in a combination of heavy filtered doses of radium and large erythema doses of external radiation.

I quote here from King and Brandeis of Memphis: "It is further agreed that roentgen radiation and radium rays must be combined to produce the maximum effect on the neoplastic tissue and give the patient the best chance of cure."

I also quote from Dr. Leon J. Menville of New Orleans, La. This is in answer to a letter in which I asked this question: "Dr. Menville, isn't it a known fact that the majority of internists, gynecologists, surgeons and radiologists throughout the entire country now believe that the best possible chance of cure in cancer of the cervix lies in early diagnosis and this to be followed by a combination of intensive x-ray radiation and radium therapy."

> "It is not only the consensus of opinion of the medical authorities of this country, but of all countries, that irradiation therapy offers more for the patient suffering from carcinoma of the cervix than any other form of treatment. Since its inception, it has occasioned a marked reduction in the mortality rate of this disease.
>
> "For many years, radium was used first and followed by deep x-ray therapy in these cases. For very good reasons, there has been a tendency in many medical

clinics to use deep x-ray therapy first and this followed by radium when needed in most cases. The explanation of this reversal of order of treatment would necessitate a fairly long and detailed account. However, if you are interested, I shall be very glad to give the reasons."

SUMMARY

It has been shown that both specific and non-specific infections of the cervix, which exhibited varying degrees of erosion, eversion, laceration, and ulceration, are well healed to a normal epithelial surface by symptomatic treatment, which is followed by electro-coagulation with the monopolar current of diathermy.

It has been shown that by early biopsy, cancer of the cervix can often be discovered before it has advanced too far and the possibilities of ultimate cure are much greater.

It has been stated that cancer of the cervix is best handled in nearly every instance by the radiologist, and the day of pan-hysterectomies is fast passing.

Concerning the combined series of cases shown earlier in this paper, this further fact may be stated in closing and that is: 290 of these 835 patients have reached the fourth, fifth and sixth decades of life, and none, so far, has developed cancer. I cannot say that some of them will not become cancerous, but I can assure you of this: That if they follow instruction, and return for yearly examinations, or, at the first suspicious sign, any cancer they develop will be seen or discovered by biopsy at a sufficiently early date so that their hope of ultimate cure will be greatly enhanced.

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DISCUSSION

Wm. F. Hand (Jackson): Dr. Snelling has certainly presented a timely and worth while discussion on the very important subject of the treatment of cervical diseases and injuries. He has so thoroughly covered the subject that it leaves very little of importance to be discussed. There are a few points, however, that I would like to mention and some that I want to emphasize.

The importance of cervical diseases and injuries has not received just consideration in the past by most men. Many varied symptoms and signs may be traced to old chronic diseases of the cervix uteri. The cervix frequently acts as a focal infection just as surely as do the tonsils and teeth. This has been proved beyond a doubt. I have had several cases of chronic conjunctivitis referred to me by oculists and when no other focal infection could be found except the endocervicitis, the eyes have cleared up following eradication of the cervical infection. These cases of course are not usually due to cervical lesions but frequently may be.

Dr. Snelling has presented the anatomy of the cervix to us but failed to mention anything about the lymphatics which drain this area, which I think is most important of consideration both in the cervix acting as a focal infection and in the symptoms which are present with diseases of the cervix, as well as those which frequently develop after cauterization or other cervical treatments. This is particularly important when considering malignancies of the cervix, early or late, on account of the early metastasis of these lesions. The lymphatics of the cervix run in three directions; transversely to the external iliac glands; posterior-laterally to the hypogastric glands; and posteriorly to the common iliac glands. These are the routes which are taken by both infection and malignancies of the cervix, consequently symptoms may develop in these areas and lead one to suspect some hidden cervical trouble. Much low backache is due to infection of the cervix and on manipulating the cervix the pull on the utero-sacral ligaments will cause the type of backache that is complained of.

Considering the treatment of acute and

chronic endocervicitis the essayist has covered the field well. The statistics he has presented speak for themselves. I do not do any form of cauterization on the cervix following the acute infections for quite a long time after the acuteness has completely subsided. It has been my experience that a great number of these cases will have an acute flare-up and salpingitis develop unless ample time has elapsed since the acute infection. The essayist mentioned the use f sulfanilamide in acute infections, specific, but I feel it deserves more emphasis. I have found the use of one of the sulfanilamide preparations to be one of the most helpful forms of treatment we have in the gonorrheal infections. No form of treatment is complete without its use, and large doses to begin with. It is remarkable how rapidly an acute infection will clear up and how rapidly the leucorrhea from these infections diminishes.

In treating the chronic endocervicitis cases, especially those cases which are not lacerated, I prefer to use the bipolar electrode, the Cherry electrode if you please, instead of the monopolar type used by the author. This, of course, is a matter determined by the individual using the instrument. I have not had the good fortune that the essayist has had in not having any stenosis of the cervix develop. Many cases I have seen who have had any form of cauterization done, except the very superficial kind develop some degree of stenosis. Therefore, when I do any type of work on the cervix, along the line of destruction of tissue, I always have the patients return just before each period for at least three consecutive periods, that is, after the patient is completely well from the condition treated. When this is not done a great number of cases will return several months later with partial stenosis from scar tissue development and complain of cramping during menstruation. This scar tissue development is due to the fact that infections reach deep into the cervical tissue, and not just on the surface of the mucous lining, and the cauterization must be carried deep into the tissue in order to accomplish the desired results of preventing cervical cysts and return of the leucorrhea.

The use of the Cherry bipolar electrode is an office procedure as is the monopolar treatment used by the essayist. In the more severe types of cervical disease it is my practice to use the conization tip of the radio knife. This instrument is most useful in completely coning out the cervical canal and leaves the canal in a more nearly normal condition after healing. These patients are given a little gas to prevent pain and a thorough job can be done just as well, quicker, and better than the old methods of the Sturmdorf operation. No sutures are necessary. The patients are hospitalized for twenty-four hours and are then up and about their daily doings. All of these cases are also dilated for three consecutive months after they are well.

Just a word in passing, regarding the treatment of Trichomonas infections of the vaginal tract. Many of these infections originate or are dormant in the intestinal tract so no method of treatment in the vagina will be permanent unless the intestinal tract is also cleared, for there is sure to be reinfection from this point.

As for biopsies, I think every case in which cervical tissue has been removed, this tissue should be sent to a competent pathologist for examination. I do not think enough biopsies are done. Like the essayist, I have come across several cases of early malignancy and have been able to treat them successfully by having caught them in time. A sad word is "too late" and we do see too many cases when very little can be done for them in the way of permanent cure. Therefore I urge you all to be sure to make vaginal examinations on every female patient presenting herself and any suspicious case should be more carefully examined and a biopsy made if indicated at all. Only in this way may we ever be able to prevent mortalities from inoperable malignancies of the female generative tract.

The condition of leukoplakia is easily handled, as Dr. Snelling has pointed out, by simple fulguration of the tissue, but one must be certain to extend the fulguration well beyond the visable leukoplakia in order not to have a recurrence. Leukoplakia along the edges of a plaque may extend as far as one-fourth to one-half inch and not be visible to the naked eye, so this area of fulguration should be extensive.

In the treatment of malignancies, early or late, it is certainly advisable to use every method at our command to eradicate the condition, as the essayist has pointed out, and have these patients return at frequent intervals for re-examination.

Again I wish to thank Dr. Snelling for bringing this splendid presentation to our attention.

Dr. Hardie Hayes (Jackson): I am doing office work chiefly. When I was down at Tulane I was warned against the use of the cone, and I have had very little experience with cauterization, but I do use the monopolar fulcrum. With it I recommend giving about 4 doses of sulfanilamide. Two 7½-grain tablets 3 times a day will often prepare the patient for the use of cautery later on. I feel like if we rush into the use of cautery too soon we are going to have lots of trouble.

In the treatment of Trichomonas, I feel that we must thoroughly cleanse the vaginal canal first with tincture of green soap and then the use of some of the tablets that we have is the best treatment provided.

Dr. Snelling (Closing): If the Chair will be so kind as to allow me one minute, I would like to tell you one story. I heard a man read a paper yesterday, and there was a very extensive discussion about the use of calomel. I am not going to say whether I am in favor of the use of calomel or not, but I am going to tell you this and you can figure it out for yourself: When old Bishop Galloway was apparently on his death bed a number of years ago—he had been in a state of coma for several days, and naturally being a bishop he was surrounded by the finest medical attendants that could be procured, and I think there were five or six doctors around him mighty near all the time. In those days the doctors spent more time around the patient than we do and they were going into a huddle, and some doctor from way out in the country, who was also a Methodist and who had just arrived on the scene, walked out on the porch. He asked the other doctors what they were doing for the bishop, and they said:

"Why, we have done everything that could be done; he will be dead in another 24 hours, there is positively nothing that can be done."

And this old country doctor said:

"You are sure, gentlemen, that you have done everything that can be done—you can't do any more for him?"

"Yes, Doctor, that is a fact."

"Then will you mind my suggesting something?"

"No."

"I would give him a teaspoonful of calomel," and they did and the old bishop recovered and lived for another 12 years.

What Should Organized Medicine Do About the Medically Indigent?*

By ALBERT C. JACKSON, M.D., F.A.C.S.
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In presenting this subject, I am going to quote freely from statistics found in two recent articles, "The Doctor Looks at Socialized Medicine," by Dr. William Allen Pusey, and "Do You Want Your Own Doctor—Or A Job Holder?" by Dr. Chas. Gordon Heyd. Since both of these authors are past-presidents of the American Medical Association, I feel sure that all of us will accept their statements as authentic. That the medical profession has been sufficiently warned regarding the trend toward socializing medicine cannot be questioned when we find that such leaders in our profession as Dr. Pusey made the following concluding statement in his address to the American Medical Association fifteen years ago:

"Of this social revolution, medicine is a part. Medicine is, in fact, particularly exposed to the dangers of socialization because the projects of socialism that obtain the first acceptance are those that have to do with health and physical welfare. There is an evident tendency now to appropriate medicine in the social movement; to make the treatment of the sick a function of the society as a whole; to take it away from the individual's responsibilities and to transfer it to the state; to turn it over to organized movements. If this movement should prevail to its logical limits, medicine would cease to be a liberal profession and would degenerate into a guild of dependent employees."

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*Read before the annual meeting of the Association Southern Railway Surgeons, Washington, D. C., June 16, 1939.

That such visionary ideas regarding medical practice are rapidly approaching conclusion is evidenced by the fact that a resolution was introduced in the United States Congress in 1937 by a late senator which provided for the following: "It shall be compulsory for physicians to render any medical aid requested of them by the indigent. Bills for such services shall be paid by the Social Security Board.

"Jail sentences of three months and fines of not over $1000.00 or both for doctors who decline their services, make excessive charges, or try to collect from the patient."

Even though this good Democratic senator is now dead, my comment on this resolution is that it is socialistic and not democratic. A more recent development showing the trend of the visionaries was the recommendation by the National Health Conference here in Washington last July of a spending program of 850 million dollars annually for the next ten years and the adoption of the five specific recommendations four of which embodied many sound and constructive ideas only to have them eclipsed by the radical recommendation in number five which started "A program for compulsory sickness insurance covering the entire population of the United States." This at a cost of 10c per day per person, according to the opinion of Bower Aly, a proponent of socialized medicine, of $4,700,000,000 annually or 5.8% of the present national income would be a dear price to pay for an inferior medical service.

The last development was the introduction of Bill S-1620, in the U. S. Senate February 28, 1939, by Senator Wagner, which embodies many of the recommendations of the Centra-Departmental Committee to co-ordinate Health and Welfare Activities. In title XII—grants to states for hospitals and health centers—of this bill is proposed grant of one hundred and fifty-eight million dollars to be used over a period of three years for the construction of general, mental and tuberculosis hospitals in the sparsely settled areas of the different states when properly matched by state funds. But in the maintenance clause there is provision for $300 per bed for the first year, $200 per bed for the second year, $100 per bed for the third year, and nothing from then on. What is to become of these new hospital beds after the third year? To my mind, maintenance of hospital beds is far more important than the construction of new ones when about 30% of those we already have are lying idle. Each one of you should secure a copy of this Bill and study it carefully and let your opinion be known. Frankly the passing of this bill, in my opinion, would provide additional help to several already existing public health services but fall far short of providing ample medical care for the medically indigent.

The poor have been with us always and since the financial crash of 1929 and the depression years that followed, the percentage which does not have economic maintenance has increased to the extent that thousands have become direct charges of the government. Medicine has always been a liberal profession, altruistic to the core, and ready at all times to shoulder more than its load of charity. It is estimated that the noble men in our profession are donating one million dollars per day in medical service to the poor at the present time and yet this does not seem to be enough to reach all who need medical care. I think that the great majority of the medical profession recognizes the fact that in many instances poor people have not had proper medical attention. With an estimated 40 million medically indigent in the United States it is no wonder that the charity load of medical care on the shoulders of our doctors is becoming too heavy. It has become too expensive for many of our doctors to continue doing the amount of charity practice they are already called upon to do with the essential curtailment of their income being brought about by the increasing number of their former patients who were able to pay, going on the relief rolls. We, in the practice of medicine, did not spend thousands of dollars and ten of the best years of our lives in preparation for it, in the hope of getting rich, but because we had a yen for scientific research, a desire to alleviate the pains of suffering humanity and the hope that we could occupy a position of respect and usefulness in our community. We, of course, must of necessity, make a competence for ourselves and families, but do not aspire to reach the class of the idle rich; instead, we are proud to remain in that great middle class who have to earn their way by useful service.

Long ago, organized medicine recognized that certain phases of the practice of medicine was the concern of society as a whole, and these have been delegated to the state to regulate and control with the aid of the medical profession. To mention some of these: Care of the mentally deficient and insane, hospitalization of the indigent, prevention and control of communicable diseases and finally the great crusade in the control of venereal diseases sponsored by the United States Public Health Service and carried down through the state, county and city health units throughout the country. The question to be solved now is not a compulsory health insurance for the entire population of this country, but what are the governments, both federal and state and organized medicine, going to do about furnishing adequate medical attention for the medically indigent. It is not going to be solved by one group offering active and passive resistance to the proposed program of the other group, not by the groups hurling epithets at each other, nor by the government officials taking the position that organized medicine must be subservient to their wills. It will only be solved across the conference table. Regardless of the fine record American medicine has made in its one hundred and fifty years of freedom of practice in the control and prevention of communicable diseases, scientific research and advancement, doubling the life expectancy and in many other ways outstripping the records in countries having compulsory health insurance, we still must face the issue of medical care for the indigent, which the changing economic status has brought upon us.

One of the weakest links in the attempt to provide adequate medical care for the indigent and those in the low income group is the woeful lack of funds for the hospitalization of these people when they become desperately sick. As you know, except in the large cities and a few of the countries and states, no effort is made to provide hospital care for the indigent sick. Having operated a fifty-bed private hospital in a town of 7,500 people for the past fifteen years, I feel that I can speak with authority. Without question the most flagrant cases of neglect of the indigent sick are those cases in the rural sections, those silent sufferers, who develop appendicitis, gall stones, intestinal obstructions, eclampsia, strangulated hernia, or ectopic pregnancy, and have to lie there in agony hoping and praying that the family doctor may be able to do something that will prevent a stay in the hospital because they are unable to pay for this service. Finally when his neighbors contribute a few dollars and bring him to the hospital, it is too late for the surgeon to accomplish what might have been done if he had been able to go to the hospital immediately after the onset of the surgical emergency.

Someone has got to furnish a plan for the solution of the problem. So, why not begin to think this thing through analytically. Your plan may be as good or better than the other fellow's. Let us get down to the groups concerned in this: the government officials who are to appropriate the money; the medical profession who are to render the service; and the people as a whole who are to realize the benefits from the service. Who is to administer the fund and distribute the service is the big question for debate. Government officials would set up bureaus, both federal and state and put doctors on salary to render the service. Organized medicine says we will not tolerate your bureaucratic control, but give us control of the funds and we will spend them wisely and render a good service. Society as a whole would probably like to place control of the funds in the Department of Public Welfare, which is largely political. They are all wrong. The National Health Conference made the following recommendation: "The role of the Federal Government should be principally that of giving financial and technical aid to the states in their development of a sound program through procedures largely of their own choice." This Conference also accepted that there are 20 million indigent people in this country and another 20 million in the low income group; i.e., with an income of $800 annually or less—roughly, 15% of the entire population in each class. We who understand the ideals of organized medicine have strong convictions that any plan to be successful must hold out an incentive for the doctor to do his work and not disturb the relation between patient and doctor, leaving the patient a free choice of doctor and hospital when medical care and hospitalization is necessary.

Leave the 70% of the population who are able to pay for their medical service out of the picture. They have already received considerable help by the Group Hospitalization Plans in operation throughout the country which gives them an opporunity to budget their hospital care. Organized medicine should foster and encourage the further development of Group Hospitalization especially working toward statewide plans throughout the country. After four years of experience in helping to develop, and acting as a director and president of the Hospital Service Corporation of Alabama, I am firmly convinced that we are doing a fine community service in the field of hospitalization. On the other hand, I am of the opinion that if a similar non-profit corporation were to attempt to offer a voluntary group medical insurance to the population, it would be a complete failure.

Getting back to this 30% about whom we are concerned, if the National Health Conference is correct in saying that "The role of the Federal government should be giving financial and technical aid to the states in their development of sound programs through proceedings largely of their own choice," then ask the U. S. Congress to draft and pass a simple bill appropriating one dollar per capita or 130 million dollars annually to be distributed among the different states on a per capita basis, specifying that this sum must be matched by a state fund of thirty-three and one-third cents per capita, that not more than 5% of this fund shall be used for administration purposes, and that complete control of the disbursement of these funds shall be vested in a state commission for the medically indigent to be composed of two members of the state board of health, two members of the board of trustees of the state hospital association one of whom shall be a physician, and the director of the state department of public welfare. This state commission for the medically indigent would be predominately medical and could in turn set up county units who would act in an advisory capacity as to the administration and disbursement of the fund in their respective counties. For the 15% of the population who are totally indigent this fund must provide free hospitalization and a complete medical service in their homes, paying the doctors already in practice in their respective communities on a fee schedule basis and allowing the patient free choice of his doctor and hospital. For the 15% of the population in the low income group this fund would be used to provide hospitalization only, allowing free choice of hospital, and requiring pay for medical service in the homes as usual. On the cases treated in the hospitals the doctors would not receive any renumeration for their services from the fund nor from the patient. Gradually, out of any surplus in the fund, more hospitals could be built in the areas where needed, and the empty hospital beds in the already existing hospitals would be kept filled by these patients, the hospitals being paid a per diem rate of $3.50 to $5.00 per day for ward bed which is about actual cost. The reason for not allowing a medical fee for hospital cases is that it would be very little trouble and no expense for the hospital staff to render service to these people and the additional clinical material in the hospital would develop the skill of the staff members to the extent that they would be able to give better medical service to the community as a whole. The reason for using existing hospitals and developing more small hospitals in the sparsely settled areas is that your hospital bed would be easily accessible to your potential hospital case, and when these poor people are placed along side the pay patient they do not feel so keenly the stigma of being a charity case.

Would the fund be adequate to render all of this service? I feel sure that it would for in my home state of Alabama with 2,800,000 people, we would have $3,735,000 to spend annually and in my home county with 65,000 population the annual fund would be $86,600, where we have two hospitals and thirty physicians. Breaking down the figures for my county, allow $36,000 for hospitalization of 20,000 of the population eligible for this service, $10,000 for the purchase of drugs and $40,600 for medical care in the homes of the 10,000 totally indigent. Conservatively there should be an average of 5 per family in this group and on this basis there would be $9.00 annually per family for hospitalization. The Hospital Service Corporation of Alabama sets aside $9.00 annually per family for ward service and this fund is ample and pays the hospitals $4.00 per day for this service. For the medical service in the homes the fund would provide $20.30 per family annually while the average for contract medical practice is $18.00 per family annually and the doctor has to furnish his own medicine. According to this the fund would be ample.

Finally, how are we going to determine who is eligible for this service and how are they going to identify themselves when they need service? Require the local county board for the medically indigent with the aid of the records of the County Department of Public Welfare to register every individual and family in the county in the low income group and issue a card to them stating that they are eligible for hospitalization, but only upon recommendation of their family physician. To the totally indigent, a card would be issued providing for complete medical service in their homes and hospitalization when necessary and upon recommendation of their family physician. This registration should be repeated annually to take care of those who may have had a change in their economic status. Printed on the face of every card in bold letters should be an inscription stating that the holder is entitled to free choice of doctor or hospital.

A plan of this kind would not destroy the foundations of American medicine and the cost would be small compared to 850 million dollars annually. How many of you have become interested enough about this matter to talk to your congressmen and senators? Are you going to leave it up to them to surmise what organized medicine would like to have done about medical care for the medically indigent? Has it ever occured to you how much pressure general public opinion might exert for a constructive solution of this question? You, as a citizen, should be concerned about this problem just as other citizens are concerned, and since you are a medical man, and this a medical subject, the other citizens in your community naturally expect you to be able to make some constructive suggestions as to the solution of the problem. Editorial comment following the special sessions of the House of Delegates of the American Medical Association in Chicago last September was predominantly in favor of preservation of the freedom of American medicine. I would like to give a quotation from one appearing in the Washington Evening Star: "The physician must be the master in the house of medicine. He must be kept free from political control. Any set-up which has not his complete approval and sincere co-operation hardly can hope to succeed. A larger government activity in the field of medicine should come gradually, with much testing and proving, through the expansion of the functions which already exist." Why not encourage more editorial comment among our friends of the press? Finally mould general public opinion to the point that it will demand that something must be done about the medically indigent and that it be done in a manner that the traditions of American medicine be preserved, so that the citizens of our free democracy shall always have the inalienable right of free choice of their doctor.

(Editorial Comment): The substance of this paper was also brought before the Monroe County Medical Society at Amory a few weeks ago and out of this meeting a resolution was brought before the Northeast Mississippi Thirteen Counties Medical Society at Aberdeen on September 12 by Dr. G. S. Bryan, and was adopted. This resolution was carried before the Council of the Mississippi State Medical Association on September 28, but action on it was withheld for the House of Delegates. This paper is being reproduced in the MISSISSIPPI DOCTOR by request. Honest and sincere discussion of a vital medical problem will do no harm, or should not. Regardless of what you think of this paper, you will agree that Dr. Jackson has his thinking cap on and is open to the truth in the solution of a problem vital in human affairs.

Allergy*

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ALLERGY is a term applied to an abdominal reaction to some things that are non-toxic to most of us. The cause of this abnormal reaction is a much studied and debated question. Pollock (1918) urged endocrine explanation. Patterger, 1918, who related allergy with a disturbance of autonomic nervous system; Knapp, 1919, noted the peculiarity of the emptying time of the stomach in asthmatics. However, Dunbar in 1905 introduced the specific protein sensitization theory which is now held by most workers to be the right and true explanation, namely that allergic individuals are those who are hypersensitive to certain foreign proteins and that they exhibit one or more of these abnormal reactions each time a sufficient quantity of the specific foreign protein comes in contact with their sensitive mucous membrane, skin or enters their blood stream. However, this protein theory is now disputed. Karsner, 1924, induced similar symptoms in guinea pigs with copper sulphate, sodium iodide, fuller's earth, etc. Grove and Coca, 1925, Black and Moore, 1926, obtained positive skin tests, and performed satisfactory treatment with ragweed extract from which protein had been excluded. Moreover, it is rapidly becoming apparent that the number of these specific substances may be legion; indeed after the works of Feinberg, 1927, it is difficult to escape the feeling that it will eventually be possible to demonstrate sensitiveness to all substances under the sun, when the task of desensitizing the world will logically follow unless it be before hand recognized and freely admitted that many individuals may be convicted by these skin tests who never throughout their lives evince allergic symptoms, even with environmental contact with the offending substance.

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*Read before the Delta Medical Society, Greenville, Miss., April 12, 1939.

This is where you and I as general practitioners or country doctors come into the picture—not in searching inquiry into the current hypothesis but in increasing interest in this great army of allergic individuals and doing our best by using present day knowledge to help them in their inconveniences, their discomfort, their loss of time from work, the disabling effect in many cases, particularly the asthmatics, and the complications which are apt to ensue. As a further stimulus for interest in this work is the gradually widening scope of this field; every year some new diseases are included in this class.

True the mortality from allergy is very small but it may be conservatively said that there are in this country alone one million asthma sufferers and between two and three million hay fever cases, or two or three out of every one hundred persons. With the addition of the other allergic reactions which may occur in almost any part of the body as hyperesthetic rhinitis, eczema, urticaria, angioneurotic edema, gastrointestinal allergy, migraine, vernal conjunctivitis, spasms of urinary bladder, epilepsy, angina pectoris, and more are being added each year. Considering the many millions that make up this great allergic army, if we are to keep abreast of medical progress and hold the faith our patients have in us as the best doctor in the world, the importance of our acquaintance with the field of allergy becomes a necessity. No matter what one's specialty might be, allergic reactions can occur in any part of the body and so is one of the problems of every doctor.

The causes, the diagnosis and treatment of allergy have been much simplified in the past few years—you can get pollen sets for your hay fever sufferers specific for your county by just sending the name of your county and requesting them from any of the allergy houses.

First, under etiology, the most certain knowledge we have is that it is usually inherited. In about 60% of patients with a definite allergy we can easily trace the presence of allergic disease in other members of the family. If both parents are allergic the incidence of allergy in the offspring is approximately doubled. Of course, it is the allergic tendency that is inherited and not the disease. Thus Grandpa has asthma, Pa has hay fever, and Johnnie III has nettle rash, but they all have a common characteristic—the ability to become sensitized. Of course, this constitutional factor alone cannot be responsible for allergic symptoms. It is essential that the potential allergic become sensitized to a particular substance or substances, and it is our job to find what these are—foods, epidermals, pollens, or what have you.

First, of course, be sure your disease is allergy—is it asthma, or heart disease, is it angioneurotic edema, or thrombophlebitis? This can usually be ascertained by the finding of certain characteristics of allergy, family history, wheezing, dyspnea, coughing attacks, the presence of associated allergy such as hives, eosinophile increase in the blood or in the secretions and the presence of positive skin tests. And the hope for a cure lies in finding definitely these particular substances by positive skin tests.

The material used for testing comes in three forms, powder, paste, or liquid, and may be ministered cutaneously or intra-cutaneously. The cutaneous method is usually the one of choice because of the greater pain and discomfort, greater likelihood of false positives and greater danger of systemic reactions incurred with the intra-cutaneous method.

From twenty to forty scratches about one-eighth inch long are made on the skin of forearm, back or thighs with needle or razor blade, or spearhead in ear set, the object being just to penetrate the skin without drawing blood, which dilutes the solution too much. On each scratch is placed a drop of liquid if liquid is used, paste on end of toothpick is paste is used, or with powder set a drop of twenty normal sodium hydroxide in which amount of powder that will cover the flat end of a toothpick is dissolved.

A positive reaction consists of urticarial wheels with surrounding erythema and is accompanied with itching. The reaction may merely be an erythema or there may be wheel without itching. A positive reaction usually takes place in five to thirty minutes but may not occur until 24 to 48 hours in some instances. Any positive reaction denotes a sensitiveness to that particular substance, but this positive reaction does not prove that the symptoms in question are caused by any of or all of the positive reactions obtained, so all skin tests must be confirmed by clinical trial. Sometimes the substance causing symptoms may not cause a reaction in the skin, although you know the symptoms your patient is having are caused by an allergic reaction.

You would not examine a patient's teeth and tonsils and say you had given this patient a thorough examination. The same is true in allergy tests. You would not make some ten or twelve skin tests of the more common foods or the foods the patient thinks is causing the trouble—but this test must be made to as many articles of food as is possible for you to get that the patient eats; in fact this test should consist of all foods the patient ever eats, the hairs and feathers with which he comes in contact, most of the miscellaneous substance, and all the wind-borne pollens in our particular district. When you have done this, there remains only those things which can be removed by the process of trial and elimination.

Any salesman of a reliable drug house can help you in installing this set by showing you a list of the most common foods, pollens, etc., that are bought at the start, and you may add to these from time to time, the less common proteins that are also necessary for complete tests.

We started with a set of fifty and have now built out the set to 92 testing articles, and we feel that from this set we have prevented three appendectomies controlled for two years angina pectoris attacks in one individual who was having two or three attacks each month, controlled several cases of nettle rash, four cases of angioneurotic edema, made several asthmatics' outlook on future life much brighter, and made it possible for one man to wear woolen suits in winter months for the first time in four years.

Treatment consists of eliminating the offending substance, or of desensitization. The latter consists of injecting extracts of the material to which the patient is sensitive, beginning with minute doses and gradually increasing. The object is to reach a dose high enough to protect the individual from natural exposure to that substance. In any desensitizing set the instructions for its use are most minute whether it be for pre-seasonal, co-seasonal, or perennial method of treatment. These instructions are so exacting that time will not permit a discussion of them here.

I wish to acknowledge the use of a booklet, "The Principles of Allergy," by Arlington Chemical Co., as a basis for this paper. Any of you who might be interested may obtain this booklet which goes more into detail as to treatment outlined by this company.

Cardiac Pain In General Practice*

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THE GENERAL practitioner is frequently called upon to examine individuals with pain in the cardiac region. There is rarely a month which passes that does not bring at least one of these patients to his office. And we are all familiar with the hurry call that comes, so often at night, from the patient who lies anxiously in bed fearing that he, or more usually she, is having a "heart attack." It is the very fact that pain is present near the heart which causes the patient to seek medical advice. For we all know that our patients will go determinedly about their affairs with quite severe pain in the abdomen. Likewise even a considerable degree of dyspnea or a chronic cough will not cause them serious concern. But even slight twinges of pain in the cardiac region or near the spot the patient imagines his heart to be located will send him seeking his physician.

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*Read before the Delta Medical Society, Greenville, Miss., April 12, 1939.

This concern which the patient manifests is at times strangely contagious so that one is hard put to it to keep from interpreting too gravely a slight precordial discomfort in a tense, somewhat neurotic patient. There is hardly one among us who has not seen rather serious harm come from an already "nervous" patient having been told incorrectly that he or she has angina pectoris or coronary artery disease. A. E. Ernstene of the Cleveland Clinic states: "The attachment of grave significance to symptoms of minor importance may be quite as detrimental to a patient's welfare as the improper interpretation of symptoms of serious organic disease." In recent years the tendency on the part of the general practitioner and the layman to label minor heart disease as immediately dangerous has no doubt grown out of the constant appearance in the medical literature, lay magazines and newspaper health columns of articles dealing with coronary artery and angina pectoris. The attitude of the general practitioner has been noted to have turned from his former optimism and neglect towards possibly an undue pessimism where heart region pain is concerned. He has in a word become somewhat overly conscious of heart pain in its relation to coronary artery disease and angina pectoris. This is not by any means without advantage for it is more serious a sin to label coronary occlusion pain as unimportant or to miss it entirely than it is to label some minor heart condition as more serious than it is in fact. The case of coronary occlusion will quite likely come to a bad end if not correctly diagnosed and given his proper chance by rest in bed. But the neurotic or "nervous" patient who has been erroneously styled a case of major heart disease will sooner or later meet with a physician who will allay his ungrounded fears.

Since we must carefully make our way then between undue pessimism and unfounded optimism where heart pain is concerned, it will behoove us to prepare for ourselves some method of practical bedside or office approach. The interpretation of heart region pain is often nearly obvious. It may be difficult, however, to the point of impossibility. It is not the purpose of this paper to deal in detail with the characteristics of pain due to any one heart disease, but more particularly to pursue certain generalizations which will enable the hurried general practitioner to determine whether or not he is dealing with pain due to immediately serious heart disease or due to heart disease at all.

It seems to the writer that it is best to develop first a simple classification of heart region pain according to its location. Let us divide the pain into precordial pain and substernal pain. And then define precordial pain as pain which occurs in that part of the chest wall which lies anterior to the heart and in that part of the abdominal wall known as the upper epigastrium. Then let us define substernal pain as pain occuring in the region deep to the sternum and consider the region more particularly as extending to the right and left as far to the heart borders. It is not necessary to describe more concise anatomical limits for these regions.

In questioning the patient with heart region pain it is absolutely essential to ascertain whether the pain is precordial or substernal, and if precordial, whether or not it is confined to the precordium alone.

It is stated that precordial pain when confined to the precordium is seldom due to organic heart disease and never due to angina pectoris or coronary occlusion. Angina or coronary occlusion will cause substernal or deep upper epigastric distress which radiates to the precordium, but when this occurs one is not dealing with precordial pain alone, but with precordial pain that has radiated from the substernum. If the pain of angina or coronary disease begins in the precordium, it will promptly radiate to the substernum. A very important consideration is that pain originating in the anterior chest wall and radiating to the neck or down either arm is not due to angina unless it also radiates to the substernum or begins there and spreads to precordium, then arm or neck or both. And it is equally important to remember that true anginal pain usually comes on effort and is often relieved by nitroglycerine and rest.

The most common cause of precordial pain is neurocirculatory asthenia. Here the pain is a dull ache and continuous, is not relieved by nitroglycerine except through suggestion. This dull aching type of pain is also seen in women who at the menopause show essential hypertension but no evidences of organic heart disease. It is likewise found to be present in middle-aged men with hypertension. One may erroneously put the hypertension and the precordial pain together and arrive at the unjustifiable conclusion that the patient is about to have, or is having an anginal attack. Conveying this idea to a patient may do great harm and without cause for nothing could be further from the truth.

Even congestive heart failure either with or without a previous hypertension does not produce precordial pain, but may produce a complaint of vague sensations of heaviness in the chest. Do not add to your other worries by anticipating angina.

Precordial pain may result from paroxysmal tachycardia, or from any sustained elevation of pulse rate in a truly hypersensitive patient. And in high-strung patients fleeting twinges of sharp or sticking pain may accompany premature beats or the forceful ventricular contraction which follows.

Arthritic changes in the spine may occasionally cause quite severe pain in the precordium. The writer has seen one thirty-year-old woman with intercostal neuralgia and arthritic spinal disease kept abed for three weeks and frightened into a frenzy by a diagnosis of angina pectoris.

Cases of aneurysm of the aorta may cause precordial pain with or without cough by pressure on the sternum. The diagnosis should not be difficult where care in examination is used.

Rheumatic heart disease and acute fibrinous pericarditis occasionally produces precordial pain which may be only fleeting but may be very severe. This is uncommon and a careful history followed by a thorough physical examination should make diagnosis certain

Patients with mucous colitis and spastic constipation will frequently complain of precordial discomfort. One must be careful with these patients not to label a gas-filled stomach or hepatic flexure as heart disease.

Substernal pain brings us to a consideration of some of the types of heart disease which are immediately dangerous. The pain of angina pectoris and coronary occlusion is substernal. It may, as has been said, radiate to the precordium, but must be substernal at some point in its course to be considered as due to either. Epigastric distress taking the form of either pain or gaseous distension and sour eructations should actually arouse more suspicion of the existence of coronary artery disease in a middle-aged person than should any amount of simple precordial pain that does not radiate. The dull ache of neurocirculatory asthenia is seen to spread to the upper epigastrium but is a different thing altogether from the deep distress or sense of fullness sometimes seen with coronary disease.

Substernal pain may often be actually more difficult for the patient to discribe than is pain of the precordial type. Levine and Boston states that the individual with angina often does not complain of pain at all. Instead they will say that they have a sense of tightness, a burning sensation of a feeling of weight or oppression inside the chest. These discriptive terms should arouse suspicion.

It is the writer's earnest opinion that if in approaching the problem of the patient with heart region pain a careful distinction is made between precordial pain and substernal pain the diagnosis will be greatly simplified. Particularly when it is borne in mind that precordial pain alone confined entirely inside the chest wall is seldom due to serious organic heart disease and never to angina pectoris or coronary artery disease.

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Manuscripts and material for publication under the Mississippi State Medical Association should be received not later than the twentieth of the month preceding publication. Address material to Lawrence W. Long, M. D., Suite 412 Standard Life Building, Jackson, Mississippi.

THE STATE HOSPITAL ASSOCIATION BULLETIN

The Mississippi State Hospital Association is to be congratulated on their entry into the publishing world with the QUARTERLY BULLETIN dated September 1, 1939. There has been a crying need for these many months for such a publication. Dr. A. M. McCarthy, Electric Mills, Miss., is a very able and efficient editor and it seems that he is on the road to making this bulletin fill the long felt need for such a publication. He is to be congratulated on his work and the Hospital Association on their choice of him for the position of editor. May this publication thrive and prosper under his able leadership and continue to fulfill a much needed service in Mississippi.

— L. W. L.

A PATHOLOGICAL SERVICE FOR EVERY HOSPITAL

The Missisissppi Chapter of the American College of Surgeons, in conjunction with the Mississippi State Hospital Association, is attempting to solve a plan and method whereby every hospital in Mississippi may retain the services of a competent pathologist. We must realize the great need and the importance attached to the services of a competent pathologist in the work of a well organized and regulated hospital. It is practicing medieval medicine to attempt to do surgery without his aid. Many cases present the diagnosis in itself to the doctor in charge, but many do not. It is of great importance in the elevation of the standards of medicine, as well as the hospitals, that we make every effort to have every hospital use a pathologist. It is as essential as any other part of the hospital. Certainly we cannot expect to learn, progress and improve ourselves in the grade of work we are doing without postmortem examinations.

A plan is being submitted to the hospitals and the surgeons of Mississippi, whereby for a very nominal charge per bed every hospital in Mississippi may avail itself of a pathologist and render a real service to its patients, its doctors and to hospital standards.

Let us all urge that this program be put over on a large scale in Mississippi.

— L. W. L.

OCHSNER'S EDITORIAL IN "SURGERY"

It is indeed a delight to call your attention to the editorial on "Correct Speech" in SURGERY, September, 1939, by Dr. Alton Ochsner. This is a very worth while gesture on Dr. Ochsner's part because it is a habit with many of us to fall into just such use of language as he so ably describes. It is really a deplorable situation we have allowed ourselves to slip into in our eager desire to learn medicine. In doing so we have lost some of the finer things of life. He covers most of the common errors many of us make, but there are other faulty expressions we need to weed out. I urge you all to read and heed this excellent editorial. Careful attention to our habits of speech will aid in placing our profession on a slightly higher plane than it has attained heretofore. Heeding such thought-provoking exhortations as these from great men like Ochsner will enable us to go forward in our profession.

— L. W. L.

ABUSE OF CHARITY HOSPITAL FUND

In Alcorn County the supervisors frequently send patients to the hospital requesting hospitalization on the State Charity Fund. This in many instances is obviously done through political influence. Frequently the patient gets the idea he wants to go to the hospital and proceeds to do so without the recommendation of the family physician. This places the doctor on the hospital staff at a disadvantage. It is unfair to him. He almost has to take the case. Argue as one may, it is difficult to make the layman understand that the doctor doesn't get pay in such cases.

Assuming that similar instances occur in the other counties throughout the state, then there is considerable use of this fund for the political gain of some county politician. Even though the family and friends of the patient might grow indigent it would be better for the community as a whole if the doctor would become hard boiled and refuse to treat such cases.

— S. A. H.

PROPOSED INCREASED CHARITY FUND

Very few members of the medical profession want socialized medicine yet many seem to favor plans that allow it to creep on us. At the recent meeting of the Northeast Mississippi Thirteen Counties Medical Society at Aberdeen a motion was passed asking the governor and state legislature to appropriate fifty cents per capita for the care of the indigent sick. Assuming that there are approximately 2,000,000 people in Mississippi, this would raise $1,000,000. The idea was to increase the present fifteen cents per capita State Charity Hospital Fund to fifty cents. The vote was rather close and there were strong contenders both pro and con. This move had been preceded by a similar one at the recent meeting of the Monroe County Medical Society.

The plan is to use a large share of this money to pay physicians for home visits. Argument for the motion was in fault in that it left the impression that part of the present fifteen cents per capita goes to doctors. None of this money goes to doctors. All of this fund is used to pay a cut rate hospital bill.

In passing this motion it was hoped that the federal government would make a larger proportionate appropriation for the same purpose.

This plan would not provide the total income of the doctor, but in so far as it goes this is socialized medicine.

There is no conceivable plan that would keep participation in this fund from being abused and the proposed increased fund would be to a larger extent.

The medical profession should use profound judgment before acting on any plan that would lead us into socialized medicine.

— S. A. H.

Eleven countries in Europe with a population of ninety thousand more than the United States have nineteen thousand less physicians than we have.

Sweden, which seems to have a splendid medical service, has one physician to about 2,600. The United States has one to a little less than eight hundred.

Medical education in a large measure may now be had by the busy practitioner while he goes about his work, through medical societies, medical journals and postgraduate work. This compensates for some of the small fees out in the small town.

The council did not assume the responsibility of passing on the resolutions of the Northeast Mississippi Thirteen Counties Society adopted at its last meeting, passed them back or on to the house of delegates in accordance with its previous instructions.

The Mississippi State Medical Association has more than a thousand members this year, we think the largest paid membership it has ever had. This is good, but our membership should be larger. Don't forget your dues for next year. You need the state association and it needs you.

In 1900 we had 160 medical schools in the United States; we now have, according to the A. M. A., 77. We are having nearly as many graduates from the smaller number as we had from the larger, and certainly, as a rule, they are better trained for service now than then.

You will note in this issue of the journal a statement of Dr. Harvey F. Garrison, Sr., of Jackson, Miss., a past president of the Mississippi State Medical Association and a former member of the Council of the Southern Medical Association. He originated the annual meeting of the presidents, presidents-elect, secretaries, and editors of the state medical associations, for the purpose of having a free "off the record" discussion of medical problems common to this group. The meeting each year has been well attended and the discussions most interesting. We think it was really a constructive move which can and will render splendid service. Dr. Garrison has been a constructive thinker and an able leader in organized medicine for many years. He had an active part in the establishment of our tubercular hospital which ranks well the world over and he has pushed to the front in Mississippi his specialty, pediatrics, for a number of years. We are proud that a Mississippian inaugurated this conference which seems to be growing in favor and proving its possibilities to serve.

It seems to be quite well agreed by the physicians in the state that Mississippi should have one well-equipped general hospital as a kind of clearing house for the rest, especially for the care of the cripples of the state, and to furnish the basis of a first class internship. It should probably be a two hundred-bed hospital at least, perhaps larger. The town in which it is located should contribute liberally to its construction in our opinion. If we have this central hospital then the five state charity hospitals should either be closed or owned and operated by the cities in which they are located and should receive a per capita distribution of funds the same as any other hospital in the state. The doctors and owners of the hospitals, together with the town and county boards, should get together and decide whether they want to take the charity into the private hospitals or keep the state hospital and operate it with the per capita funds supplemented by whatever funds the town and county can afford. There should be no zoning of territory to any hospital unless all the state is zoned. The hospital that drums for charity patients, it would seem, should be dropped from the eligible list. We just need to have a hospital set-up that would serve best and be fair and square to every person in the entire state. We have enough hospitals in our state, too many perhaps. We may need a little more even distribution in places, but we need to improve many that we have that they may serve better.

Our good friend, Dr. J. R. Shacklette of Jeffersontown, Ky., has the following to say on the treatment of herpes zoster, or "shingles." We have tried his treatment in one case and we were pleased with the results. —Ed.

"I have treated about ten or twelve cases each year for the past ten years with perfect results in every case. It is necessary sometimes to protect the eruption from the clothing by covering with collodion. A great many cases are complicated with neuritis, some with no other symptoms than severe pain over the eruption. My treatment as long as nothing else complicates the case, has been one cc. of pituitary solution. I use the obstetrical solution, one cc. ampule to be given every day for five to ten days or until all symptoms are relieved. I have never had a recurrence of the disease."

The meeting of the Northeast Mississippi Thirteen Counties at Aberdeen was a good meeting. The scientific session was fine and other matters stirred interest. A free and open and honest discussion of any problem should always result in good rather than harm.

The Auxiliary held its session in the J. M. Acker home, one of the most beautiful colonial mansions in the South. The antebellum culture, refinement and cordiality were still in evidence with Mrs. Acker and her mother as hostesses.

The banquet at the Park Hotel, Dr. J. W. Lipscomb presiding, was highlighted by a wonderful address by Dr. W. A. Evans of Aberdeen, a well-known citizen of the world. Dr. Evans is contributing a library to his home town and county at an expense of twenty-five thousand dollars which will be a living and serving monument.

The December meeting goes to Tupelo, a thriving city that is never surpassed by cordial and friendly entertainment.

Almost every day you see something in the lay press about the iron lung, the respirator, and you are impressed with its life-saving qualities. The respirator has been used mainly in infantile paralysis.

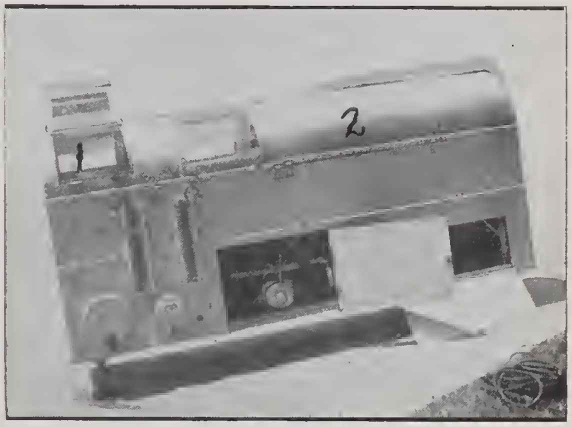
In the November, 1938, issue of the MISSISSIPPI DOCTOR you read about the respirator of one of our own doctors, Chas. M. Hammond, of Walls, Miss. Every doctor in Mississippi and every citizen of our state should feel very proud of his master accomplishment. Dr. Hammond is a native of Alabama, but Mississippi is his adopted state and he married a Mississippi girl.

DR. CHAS. M. HAMMOND

Along with his busy practice he toiled for six years to develop a motor-driven machine and was the first on record to achieve this. He has continued to work on his machine, to add improvements, until now it is no doubt the best in the world. "The work we love to do physics pain," said Shakespeare. The love of service compelled him on and success stimulated him further. Recently five new improvements have been passed upon favorably by the patent office, making his respirator very useful in pneumonia as well as in other conditions.

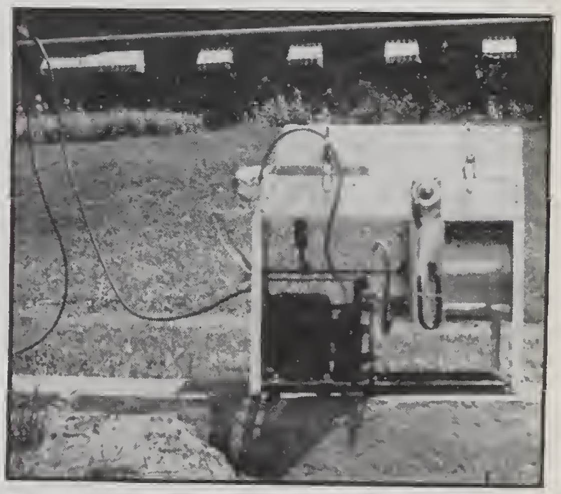
The chief features of the machine are:

A double respirator, oxygen tent, and a means instantly to place the machine in harmony with the breathing of the patient and to keep him there. The absence of a stretcher allows more room and permits quick entrance of a patient. A rubber arrangement adjusted about the chin does not constrict the neck, but inflates to fit the neck behind. The heart is not sometimes but always strengthened. These advantages dispose of the necessity of a skilled operator, for it is almost self-operating.



Hood (1) folds under the body. (2) is raised or detached, making a couch and oxygen tent. The design can be adjusted as desired.

To the man who puts service above self, no one thing does him more good than to render service to his own home people. Dr. Hammond has worked long and hard to give the world a worth while contribution. He is willing and anxious to do something special for his native state and for his adopted state, Alabama, before he places the sale of his respirator with a national distributor, so he volunteers to sell to any hospital in Mississippi or Alabama one of the machines for five hundred dollars. After the contract is closed



The guage shows aspiration of mucous at the time of exhalation.

and they are sold through an agency the price will be three times this. Every hospital in both states, it seems to us, might take advantage of this offer. Every hospital should have one. Write Dr. Chas. M. Hammond, 636 North Dunlap St., Memphis, Tenn.—Ed.

TO THE MEMBERS OF THE MISSISSIPPI STATE MEDICAL ASSOCIATION:

My dear friends,

The smoke of the political battles has cleared and we know who will be our representatives in the legislature to meet next January.

I have communicated with every successful candidate, sending him copies of the resolutions adopted at Gulfport last May relative to the hospital recommendations of the Association.

From these candidates I have received twenty-nine letters all of which are favorable.

Now this is a big job, more than any one man can do, so I am asking you if you will please interview the legislator from your county and try to get him to give us an expression concerning this work we are so anxious to accomplish, and after you have an expression from him let me know how we stand with him?

Recently I was at a medical meeting and I obtained promises from doctors there to interview their legislators.

May your president ask you for this help?

Sincerely yours,
J. P. Wall, President, Mississippi
State Medical Association.

SOUTHERN MEDICAL GAVEL AND PEN MEETING

(For want of a slug-length heading for this message to the presidents, presidents-elect, secretaries and editors of state medical associations within Southern Medical Association territory the proofreader resorted to the above.)

Harvey F. Garrison, M.D.
Jackson, Miss.

Four years ago, after having been elected president of my State Medical Association, I felt very keenly the need of counsel from others who occupied similar positions of leadership. It was then that I conceived the idea of calling a conference of the presidents, presidents-elect, secretaries, and editors of the state medical associations in the territory, and at the time and place of the meeting, of the Southern Medical Association. I was confident that others, like myself, would appreciate the opportunities afforded for a "free for all," "off the record" discussion and interchange of ideas relative to the problems of the profession and, at the same time, avail themselves of the advantages to be obtained by attending the Southern Medical Association.

By a unanimous vote each year, this conference has been made an annual affair. Each one has been well attended and has received the enthusiastic approval of both state and national medical leaders.

I should like very much to have your opinion of having these conferences from year to year and also any suggestions you may have to offer pertaining to subjects for discussion. Please bear in mind that this conference has no official connection whatever with the Southern Medical Association or with the American Medical Association. It is intended for the purposes indicated above, and we alone are responsible for its discussions and activities.

The conference this year will be held at the Peabody Hotel, Memphis, Tennessee, Tuesday, November 21, at 6 P.M. As chairman, I extend you a most cordial invitation to attend and participate in the discussions. My ambition is for the conference to help the medical leaders solve their problems and, through them, give aid to our profession. May we anticipate the pleasure of your attendance and co-operation at the meeting?

If for any reason you are unable to attend, please select and give me the name and address of some outstanding medical leader in your state who will attend and represent you at this conference. A luncheon, or dinner, given in honor of this group may be announced later. The program will be mailed at a later date.

NEWS AND COMMENT

The local medical society of Memphis, Shelby County, will do its part in fine style next month when the Southern Medical Association will meet in its thirty-third annual session in the Mid-South's favorite city. The following are officers of the local society: Dr. J. H. Francis, President; Dr. W. C. Chaney, President-elect; Dr. W. D. Stinson, Vice-President; Dr. E. G. Kelly, Treasurer; Dr. A. F. Cooper, Secretary. Dr. W. L. Williamson is General Chairman for the Southern Medical Association meeting by appointment of the President, Dr. Francis.

Dr. Harwell Wilson of Memphis announces the opening of an office in the Physicians and Surgeons Building, 899 Madison Avenue, with his practice limited to surgery.

* * * *

The E. R. Squibb & Son recently announced the establishment of a new laboratory for the study of filterable virus diseases. Along this line of study are great possibilities. Among the common diseases caused by filterable viruses are smallpox, rabies, measles, poliomyelitis and the common cold. We are sure the profession will appreciate the efforts of the company along this line.

* * * *

Dr. H. W. Turnipseed of Tchula, Miss., died last month much to our regret. He was 72 years of age and had practiced there for forty years.

* * * *

The Southern Medical Association will hold its thirty-third annual session in Memphis November 21, 22, 23 and 24. The doctors of Mississippi should turn out in a big way and they will. The Southern is strictly scientific and it is one of the best.

* * * *

Dr. William E. Jenkins of Charleston died on September 28 at the age of seventy-three. He was a native of Mississippi and a graduate of the Louisville Medical College.

* * * *

The Municipal Auditorium will be the meeting place of the Southern Medical Association for nearly all the scientific sessions, registration, exhibits, etc. It is within nice walking distance from the hotels.

* * * *

Development of surgery in the United States has been unprecedented for its rapidity, its quality and its scientific character. Few, if any, would contest the claim that today American surgery leads all the world. In 1920, when the ARCHIVES OF SURGERY was established by the American Medical Association, there were but two important periodicals in the surgical field in this country. The space available was hardly sufficient for the publication of all contributions of value—seldom was it possible to publish articles of more than eight or ten pages. These restrictions prevented the publication of many important surgical contributions, especially in the field of experimental surgery. It is not surprising, therefore, that the ARCHIVES OF SURGERY has become in the intervening years the leading publication in the field of experimental surgery and that references to articles published in its pages constitute a large part of the bibliographies of articles on surgical subjects published in foreign periodicals. In every survey of bibliographic references that has been made, references to the ARCHIVES indicate that it has been the leading source of consultation in the last two decades.

After much consideration it was determined to expand the editorial board of the ARCHIVES and to modify the nature of the contents of the periodical in order to make it fulfil more completely its original purpose. Four additional members have now been added to the Editorial Board: Dr. Arthur W. Allen, Boston; Dr. Alfred Blalock, Nashville, Tenn.; Dr. W. E. Dandy, Baltimore, and Dr. L. R. Dragstedt, Chicago. Dr. Waltman Walters has been made chairman pro tem., during the incapacity of Dr. Lewis. It has been decided to publish papers dealing with clinical investigation on surgical problems as well as articles which concern developments in the various special fields of general surgery. Collective reviews will be published from time to time, written by competent investigators who have devoted themselves particularly to special subjects and who will be invited by the editors to develop such reviews. The ARCHIVES will provide prompt publication each month of short preliminary reports of noteworthy surgical advances made by its contributors.

THE MEMPHIS MEETING

NOVEMBER 21-24

Those who were privileged to attend either one or both of the previous meetings of the Southern Medical Association in Memphis (1917 and 1927) will remember the manifest charms of that city.

DATE OF MEETING

For some thirty years it has been the policy of the Association to meet between election week and Thanksgiving week. In determining the date for the Memphis meeting, the officers of the local society expressed a preference for the third week of November, November 21-24. And since that date did not interfere either with election or the traditional Thanksgiving, it was selected as the meeting date.

The announcement of President Roosevelt suggesting that Thanksgiving this year be a week earlier caused considerable concern. Numerous obstacles stood in the way of any change of date for the convention. A large obstacle was the fact that engagements for the use of the necessary meeting place, the Municipal Auditorium, were completed nearly a year ago by the Southern Medical Association, and for other groups at other times. The officers of the Association, therefore, unanimously decided to hold to the original date. The governor of Tennessee has announced that Tennessee will observe the traditional date, November 30, so the meeting will not be on Thanksgiving Day in Tennessee, even if it should be on Thanksgiving in some other states. Governors of Alabama, Arkansas and other Southern states have also indicated that they will observe the traditional date of November 30.

PROGRAM

The program for Memphis will follow in general the plan of recent meetings. Tuesday will be "Memphis Day," a program of short clinical presentations by physicians of Memphis. A General Clinical Session, a program arranged by the president, will be conducted on Wednesday morning. Beginning Wednesday, the nineteen sections of the association and the three conjoint meetings will convene. A General Session featuring the address of the President, Dr. Walter E. Vest, of Huntington, West Virginia, followed by the President's Reception and Ball, will be on Wednesday evening. As usual, the alumni reunions will take place on Thursday night. On Tuesday evening there will be a public session, a program arranged for the laity.

EXHIBITS

The scientific and technical exhibits have increased each year in number and in excellence. Scientific exhibits are presented only by physicians within the territory from which the association draws its membership, or by the invited guest speakers of the sections. They display particularly the work of Southern physicians.

—SOUTHERN MEDICAL JOURNAL (October)

ANNOUNCEMENT

Dr. Thomas D. Moore announces the association of Dr. A. Lynn Herring for the practice of urology and urological surgery, 899 Madison Avenue, Memphis, Tennessee.

MEDICAL LIBRARY

Mississippi State Board of Health

SPECIAL NOTICE

A new service has been inaugurated for physicians by the State Board of Health which will broaden the scope of the Library's usefulness and greatly facilitate the dissemination of the storehouse of medical informtion to be found upon its shelves. Photostatic reprints of articles desired will be furnished upon request. If wanted items are not already in the Library, arrangements will be made to borrow them from another library in order that all requests may be fulfilled. A nominal charge of 5c per page will be made to apply on the cost of developing.

New Books in the Library

RECENT EDITIONS MEDICAL LIBRARY,
MISSISSPPI STATE BOARD OF HEALTH
Jackson, Mississippi

Bacteriology, Parasitology and Laboratory Diagnosis

Burdon, K. L.: MEDICAL MICROBIOLOGY. N. Y., MacMillan, 1939.

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Mississippi State Medical Association

Organized in 1867

Next Meeting: May, 1940, Jackson.

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Discussion and comments are invited.

DERMATOLOGY

PIGMENTATION FOLLOWING USE OF IRON SALTS, C. E. Reyner, Arch. Derm. & Syph., V. 40, No. 3, pp. 380, September, 1939.—

Various dermatologists have been warning the profession about the use of iron salts in the treatment of dermatitis caused by poison ivy. This treatment was recommended by White in 1873 and has been used and recommended by several rather prominent men since then. The preparation that is usually used is a solution of ferric chloride. Permanent pigmentation of the skin has followed its use in eight reported cases and it is probable that there are other cases that have not been reported. Doctor C. E. Reyner of Detroit reports a case of pigmentation of the skin of the chin which was caused by the use of iron salts in the treatment of dermatitis venenata Rhus that was cured by the use of a water cooled ultra violet lamp. Treatment was given once each week for three months. The pigment disappeared and no scarring resulted. The exact amount of ultra violet radiation given was not revealed.

As a comment on this article, in spite of the fact that the cure was perfect in this case, it seems that the most important thing to gain from this article is that one should not use the solutions of iron salts in the treatment of dermatitis venenata Rhus.

THE EFFECT OF TATOOING WITH MERCURY SULFIDE CINNABAR ON PRURITUS ANI. MARION B. SULZBERGER, ARCH. DERM. & SYPH. V. 40, NO. 3, P. 493., September 1939.

Doctor Marion B. Sultzberger presented three cases of pruritus ani that had been treated by tatooing with mercury sulfide cinnabar. These cases were presented at the February meeting of the Bronx Dermatological Society. All three patients had been carefully studied and examined by several competent men, and no cause could be found for the pruritus. A great many treatments had been used, including x-ray therapy. No relief was afforded by any of these remedies. The mucus membrane of the anus was tatooed with cinnabar and complete relief from the pruritus was given in about three weeks, and has lasted since. The skin returned to normal in the anal region. Epithelialization is usually complete in about two or three weeks.

This treatment was discussed by a large number of members present, and various points were brought out as to why and how it worked, and whether the cure was caused by the antiseptic action of the drug or by the trauma to the nerve endings in that region. No one has proved how it works as yet.

ARCH. DERM. & SYPH. ABSTRACTS FROM CURRENT LITERATURE, B. J. Alpers, V. 40, No. 3. P. 445. Abstracted from Am. J. Syph. Gonor. & Ven. Dis. 23:233, March '39.

Gumma of Brain: Cerebral gumma is one of the rarest tumors of the brain. Three cases of solitary gumma of the brain are recorded. The signs are essentially those of brain tumor. Wassermann tests of the spinal fluid are usually positive, while those of the blood are usually negative. The author advises that the lesion be treated surgically and antisyphilitic treatment be given only after the gumma is removed. —J. G. T.

EYE, EAR, NOSE AND THROAT

REVIEW OF PRESENT STATUS OF KERATOPLASTY, Ramon Castroviejo, N. Y., Arch. of Ophth., Vol. 22, pp. 114-125, July, 1939.—

In the past few years progress in surgical treatment of retinal detachment has led to favorable results in detachments such as were heretofore considered incurable. Likewise, improvements in the technique of corneal transplantation in recent years have made it possible for a good many unfortunate persons who were doomed to permanent blindness from corneal scars to regain vision.

The source of the donor's material is naturally of primary importance. It may be obtained from the same subject or from a subject of the same species, or from a subject of a different species. The transplants from this latter source almost invariably become opaque, and the postoperative course, when this type of material is used, is marked by severe reaction of the host. When the transplant is secured from the same subject or a subject of the same species, the reaction is slight and the postoperative course unmarked by any untoward action.

Corneal transplantation may be of several types:

(a) Total keratoplasty, wherein the entire cornea is transplanted as a whole, with or without 2 to 3 mm. of surrounding conjunctiva. This type of operation in all the cases reported in the literature resulted in failure. The method offers only a temporary improvement of vision, the implant invaribly becomes opaque, and the eye is in danger of being lost through secondary glaucoma of phthisis bulbi.

(b) Circumscribed superficial or lamellar keratoplasty, wherein a circumscribed, superficial portion of an opaque cornea is replaced by similar tissue from a transparent cornea. This type of operation is applicable only in cases in which the lesions are superficial. Superficial lesions rarely extend over the whole surface of the cornea, and optic iridectomy is indicated in most instances instead of keratoplasty.

(c) Circumscribed or partial penetrating keratoplasty, wherein a variable area of full thickness of the opaque cornea is replaced by a corresponding segment of transparent cornea. This type of operation has offered, up to the present, the best permanent results. The four techniques of this type most widely used nowadays are those of Elschnig, Filatox, Thomas, and the author. These techniques will be dealt with briefly.

Elschnig's technique is a slight modification of von Hippel's. Von Hippel's trephine of from 4 to 5 mm. in diameter is used to remove from an opaque cornea a disk of full thickness, which is replaced by a similar disk of transparent cornea. A bridge suture is placed from the conjunctiva of the upper limbus over the transplant and tied in a similar position to the conjunctiva of the opposite side.

Filatox has modified von Hippel's operation trying to eliminate its disadvantages, namely, the imperfect way in which the transplant is held in position and the unfortunate ease with which the iris and lens can be injured with the trephine. A flap is made in the upper bulbar conjunctiva and an incision is made in the lower bulbar conjunctiva near the lower limbus. With a cataract knife, a puncture and a counterpuncture are made in the cornea, leaving, therefore, two parallel perforating incisions through which a strip of celluloid (prophylactic spatula) is passed, penetrating the anterior chamber and separating the cornea from the iris and lens. The cornea is trephined, and a transparent graft taken from an eye of a patient or from an eye enucleated from a cadaver shortly after death, is placed in position. The conjunctival flap, with its epithelial surface downward, is stretched over the transplant and fastened with two sutures to the incision in the lower part of the conjunctiva near the limbus. The strip of celluloid is then removed.

A trephine from 4 to 4.5 mm. in diameter is used to outline a disk in the leukomatous cornea. Then the trephine is sloped to about 45 degrees and rotated so as to cut through at one point. Through this point, one blade of a pair of scissors penetrates into the anterior chamber, and the remaining inner layers of the outlined corneal flap are cut in a shelving manner, so that the endothelial aspect of the disk is smaller than the epithelial surface. With a trephine slightly smaller than the one used in the host, a similar disk is obtained from a transparent cornea. The leukoma is replaced by the graft and is kept in position by cross stitches previously inserted into the cornea a short distance from the graft itself.

The author's technique which is widely publicized in the United States consists of cutting, by means of a double-bladed knife, a square shaped central piece of cornea. After the substantia propria has been cut through, a keratome is used so as to bevel the rest of the flap. A continuous suture is used to hold the transplant in position. These sutures are placed close to the edge of the transplant so as to prevent any looseness or detachment. No sutures can be placed in the transplant because opacification will occur soon.

COMMENT

Corneal transplantation is becoming increasingly popular. The results already obtained are sufficiently gratifying to justify its inclusion among routine surgical procedures of ophthalmology. One of the main drawbacks in corneal transplantation is the scarcity of donor's material. When the operation for corneal transplantation is more widely used, the tendency of the public and the press to dramatize this procedure will be lessened.

PATHOLOGY

Carcinoma Cells in Thoracic and Abdominal Fluids, M. J. Schlesinger, Arch. Path. 28: 283-298, Sept. 1939.—

Malignant cells found in pleural and abdominal fluids were first described in 1875. Since that time many papers have appeared based on a few cases in which detailed descriptions of the characteristics of the isolated malignant cells were considered important. After a trial of various staining methods and techniques, the author developed a method which depended upon demonstration of cancer cell groups in paraffin sections rather than upon the appearance of isolated cells in smears or sections. The various methods previously described of identifying single cancer cells were not considered reliable.

In the author's series of 100 cases from which pleural or abdominal fluid was examined, a diagnosis of malignancy was made from examination of pleural or abdominal fluid in 35 out of 60 cases (58.3%) which were proved to have carcinoma by subsequent examinations of various sorts. A false positive diagnosis of malignancy was made early in the study, and it may be implied that with the experience obtained later, the mistake would not have been made.

Groups of cases reported and excellent demonstrations of malignant cells reveal that the research was carefully performed.

The author concludes that the diagnosis of carcinoma can be made readily on thoracic and ascitic fluids in 60% of cases of cancer. A false positive diagnosis should not occur.

Cerebral Lesions in Hypoglycemia, A. B. Baker, Arch. Path. 28: 298-305, Sept. 1939.—

This is the third paper under this title published by the author.

During the past few years, several reports have appeared in the literature describing cerebral damage in human beings suffering from hypoglycemia. The lesions have been reproduced experimentally and consist of numerous old and new hemorrhages as well as many destroyed cortical nerve cells.

The author attempted to determine (1) the effect of a single severe hypoglycemic reaction on the nervous sytem as long as 130 days after the reaction, and (2) the effect of repeated hypoglycemic shocks over a period of months. Rabbits were used for the experiments.

The cerebral changes resulting from a single severe prolonged hypoglycemic reaction were definite but tended to fade with the passing of time.

In the group of animals subjected to repeated severe hypoglycemic shocks, the pathologic cerebral changes tended to become more severe in the chronic stages and the lesions more closely resembled those reported in humans who have suffered from hypoglycemic shocks. The lesions were characterized by demyelination, encephalomalacia, and glial reactions. No correlation between cerebral damage and dosage of insulin could be made. It is suggested that the cerebral damage in hypoglycemia might be due to a qualitative circulatory disturbance inasmuch as blood reaching the brain is deficient in the proper nutritive materials.

Incidence and Significance of Healed Miliary Tubercles in the Liver, Spleen and Kidneys, H. S. Reichle,and J. L. Work, Arch. Path., 28:331-339, September, 1939.—

The occurrence of small calcified spheres in the liver, spleen, and occasionally in other viscera is well known to pathologists and roentgenologists. These have frequently been called "phleboliths."

Because of a tentative hypothesis that such calcified bodies are miliary tubercles, a systematic study was conducted on material obtained from 500 consecutive autopsies. Lesions of this type were found in 91 cases; in the spleen in 73, in the liver in 47, and in the kidneys in 2.

After a review of their experimental and statistical data, the authors conclude that many, if not all small spherical bodies found in the liver, spleen, and kidney are true miliary tubercles. They occurred in about one-fifth of the bodies examined. Histologically the lesions resembled small primary tubercles, and animal inoculation demonstrated the presence of tubercle bacilli. The distribution of the lesions points to hematogenous dissemination. The high correlation between apparent resistance to progressive tuberculous disease and the incidence of these lesions leads to the suggestion that the dissemination acts as autovaccination, conferring a relatively high resistance to reinfection.

PEDIATRICS

Intrathecal Sulfanilamide in Meningococcic Meningitis, (Lancet, London, April, 1938).—

Eldahl treated 12 patients who had severe meningococcic meningitis with sulfanilamide intrathecally. Their ages varied from 3 months to four years. Three patients died. Two patients among those who recovered had meningococcic septicemia and were at the time of their admission so run down that the outlook was hopeless. Nevertheless, they got well quickly. The conclusion reached about the sulfanilamide treatment of meningococcic meningitis is that it has but little effect if the remedy is administered exclusively by mouth or administrations, the treatment is of real value. This is probably because the elimination of the sulfanilamide through the meninges may be both slow and slight when they are inflamed. It is not likely that intrathecal injections alone are sufficient because meningococci can be found outside the spinal canal, and on these sulfanilamide, when given by mouth or intramuscularly, can have considerable effect. The amount of the 0.8% sulfanilamide solution injected varies from 5 to 30 cc., according to the amount of spinal fluid withdrawn but is always less than the amount withdrawn. The intramuscular doses have been from 35 to 150 cc. according to the weight of the patients. The average fatality rate of meningococcic meningitis in the author's hospital for the last six years has been 70% for children less than 4 years of age.—Journal A. M. A.

A TUBERCULOSIS EPIDEMIC CAUSED BY MILK-BORNE INFECTION, Stahl, Simon; (British Journal of Childrens' Diseases, 36, 83, April-June, 1939).—

Here we have a well presented report of a milk-borne infection of tuberculosis; in addition a discussion follows of more than ordinary merit. The epidemic occurred in Horred, Sweden, in 1936, in a herd which seems to have been under constant good inspection (not an uninteresting point itself). When the cases began to appear and the herd was suspected, one cow was found affected by a mastitis resembling a streptococcal infection. Milk from this animal contained tubercle bacilli. Three other cows showed tubercle bacilli in their eosophagi, and were found to be infected with pulmonary tuberculosis. There were, in all, 56 humans infected, of whom nine were above school age. Stomach washings of one patient showed bovine tubercle bacilli. A table of symptoms is presented; it was noted that three cases showed erythema nodosum, only, and 13 showed cervical lymphoma only. Several case histories are given, all worthy of further study. The author believes as we do, that it has been established that this epidemic was due to infection from the cow with the tuberculosis udder. It is of interest that even hilar tuberculosis was found at times; this has been produced experimentally in cattle. Can, or rather does, the consumption of tuberculosis milk produce a certain amount of immunity against the more malignant type of human tuberculosis? This startling question is discussed pro and con. To our relief we find that Stahl believes that its importance (i.e. tuberculous milk) as a means of immunization "has been over estimated." With viking conservatism he suggests that it must surely be too dangerous a method and one that is too difficult to control to be recommended. His is an excellent paper and a stimulating one.

COMMENT:

The two abstracts listed above should be of interest to every physician. The one in regard to the use of sulfanilamide intrathecally is not entirely new nor is it free from criticism on the part of some of our best men. Quite a few of the leading pediatricians of the country do not agree with the general idea of intrathecal medication, however, it is conceded that extreme measures should at least be permissible in meningococcic meningitis.

The abstract in regard to milk borne tuberculosis and with particular reference to the mastitis and infections coming from that source, I will say that I have had my attention called recently to a similar condition prevailing in cows in this state. It is generally conceded that the usual type of mastitis are streptococcal or staphlococcal infections. I would especially urge that all cows suffering with any type of mastitis should be thoroughly investigated and bacteriological surveys made in each case, to eliminate the possible infection of tuberculosis. Certainly, no cow's milk should be consumed when she has a mastitis from any cause.

— H. F. G.

PUBLIC HEALTH

DYSENTERY BACILLI AND TARGESIN—LIPPET, (Heinrich), Klin. Woch., 1938, April 30, Vol. 17, No. 18, pp. 636-637.—

Considerable doubt exists regarding the use of serum therapy in bacillary dysentery. An efficient intestinal disinfectant which would act upon the actual micro-organism of the disease and in no way damage the tissues of the patient seems to have been found in the administration of targesin. Favorable results have been recorded in the treatment of stomach and intestinal disorders. Diacetyl-tannin and albuminate of silver have both been used in intestinal therapy. A combination of these two substances is particularly well tolerated. Their antispasmodic characters are especially valuable for the treatment of dysentery.

The inhibitory effect of targesin has been marked especially in Shiga, Flexner and Sonne strains of dysentery. In man, a therapeutic trial has been made with favorable results in four dysentery cases (Sonne and Y), given in doses of two tablets by mouth three times daily. A carrier of the infection was also successfully cleared of the organisms.

(Abstracted by Mrs. Maude Gober, State Board of Health, September 22, 1939).

THE DETECTION OF TUBERCULOUS INFECTION, J. Arthur Myers, (J.A.M.A., V. 112, pp. 1904-1910, May 13, 1939).—

Dr. J. Arthur Myers, in an article in the Journal of the American Medical Association, points out the comparative efficiency of the pathologic examination, tuberculin test, and x-ray examination in detecting tuberculous infection. He states that, "In the offices of a large number of physicians, the examination for the presence of tuberculous infection has become as routine as that for syphilitic infection." This procedure is extremely effective in leading to discovery of unsuspected cases of tuberculosis. Parrot pointed out in 1876 that there is always a primary focus of infection in the corresponding lung in which trachiobronchial lymph nodes are found to be inworked. These primary foci in the lung are frequently as small as a pin head and easily overlooked. Naegeli found evidence of tuberculous infection in 98 per cent of adult bodies subjected to postmortem examination. In 1933 Robertson pointed out the danger of asserting positively that any lesion during life or after death is or is not tuberculous from a pathologic examination.

Tuberculin testing is a very helpful procedure in case finding if, (a) a high grade tuberculin is used, (b) if those reacting negatively to 0.01 mg. or 0.1 mg. as the first dose are given 1 mg. in 48 hours, (c) if the tuberculin is lodged within the layers of the skin and not beneath them and, (d) if interpretation is made carefully by palpation of induration and edema. Facts are given which show the correlation between tuberculous infection and positive tuberculin test. Tuberculin reactors were found to be 100 times greater among students of nursing of a general hospital than among students in the college of education, and 500 times greater among nurses in tuberculosis hospitals than among college students. It is further brought out that practically all family contacts of known infectious cases have a positive tuberculin test. Edwards and Cleveland administered tuberculin tests to first grade school children and examined adult family contacts to the reactors. Through this method they discovered 387 cases of tuberculosis previously unreported.

With regard to x-ray in diagnosing tuberculosis it is shown that this method is subject to many errors because of the difference of interpretation of the pictures and technique used in making exposures. For instance, lesions must be macroscopic in size before they cast a shadow. The usual posterior-anterior exposure leads to obscuring from view much of the lung by heart, diaphragm and other shadows. Many primary lesions become resorbed after many years causing no shadow on films. It is emphasized that the x-ray has about 80 per cent handicap in detecting primary tuberculosis lesions.

Abstracted by A. L. Gray, M.D., State Board of Health, September 22, 1939.

OLE MISS MEDICAL NEWS

The Ole Miss Medical School opens its 1939-40 session with the best prospects it has had in several years. All departments have been progressively built up to a high degree of teaching efficiency. The limitation of the class rolls permits close supervision and personal instruction of the individual student. The large number of applications received this year for admission into the freshman class is evidence that full confidence has been restored. For the first time in several years, the admissions committee was required to close the rolls several months before the opening of school.

The primary purpose and objective of the Ole Miss Medical School is to train resident Mississippians in the first two years of medicine and subsequently to transfer them to other schools for the completion of their medical education. With these purposes in view, the Ole Miss Medical School restricts its enrollment to native Mississippians who are properly qualified to undertake the study of medicine.

The committee on admissions reports that the scholastic rating of the entering freshman class is distinctly above the average of the past several years. The class is composed of 20 students from the University of Mississippi, 2 students from Millsaps College, 2 students from Mississippi State College, 1 student from Mississippi State Teacher's College.

Ten of the entering students have a B.A. degree, five have a B.S. degree and twenty have completed a minimum of three years' college work and will receive their B. S. degree on completion of the two years in Ole Miss Medical School. All entering classmen are residents of Mississippi.

The Freshman Class is as follows: Robert E. Cunningham, Jr., Jackson, Miss.; Henry J. Kellum, Jr., Tupelo, Miss.; Oliver B. Wingo, Toccopola Miss.; James Ray Foster, Minter City, Miss.; Henry Holleman, Pickens, Miss.; James T. McRee, Lovin, Miss.; J. Harold Taylor, Ethel, Miss.; Alvin C. Cockrell, Hazlehurst, Miss.; James W. Bonds, Holly Springs, Miss.; Kelly R. O'Neal, Saucier, Miss.; John J. Price, Jr., Meridian, Miss.; Granville Tabb, Jr., Meridian, Miss.; William M. Horn, Lucedale, Miss.; Hans-Karl Stauss, Port Gibson, Miss.; Lee White Johnson, Columbia, Miss.; Benjamin F. Parker, Foxworth, Miss.; Harry E. Rollings, Hattiesburg, Miss.; Joseph E. Gardner, Greenwood, Miss.; Samuel E. Izard, Jr., Newhebron, Miss.; Gaines L. Cooke, Coffeeville, Miss.; William H. Jones, French Camp, Miss.; Miriam Mills, Brookhaven, Miss.; Mary Ophelia Cruise, Crystal Springs, Miss.; Louis M. Jurney, Ackerman, Miss.; Ernest Ellis, Waynesboro, Miss.

The last year's Sophomore Class are now taking up their third year work in the Medical Schools of the University of Tennessee, Tulane, Emory, Vanderbilt, Baylor, Northwestern and Washington universities.

TO THE PHYSICIANS OF MISSISSIPPI

In the past eight years physicians have found the Aschheim-Zondek test for pregnancy a great help in those early cases in which a definite diagnosis is urgent, before the characteristic examination signs have developed. The test, when properly performed, has proven to be reliable in about 97% of the cases within one week following the first missed menstrual period; and in 99% of the cases within two weeks. This is true also in the case of ectopic pregnancy.

When the virgin female rabbit is used as the test animal, a report may be obtained in 24-36 hours. However, with this animal, the highest accuracy runs only 92-97%. The rabbit is properly used only in emergencies or when time is important. If the immature female albino rat is used, 72-96 hours are required to complete the test, but the reliability is increased to 99%.

The major problem facing the diagnostician is that of having animals of the proper age and condition on hand at all times. With the rat, the problem has been solved satisfactorily in my laboratory in the University of Mississippi School of Medicine, by the use of a balanced diet and a controlled breeding routine. I have had present for the past two years a minimum of twenty female rats per week between the ages of 25-40 days. The breeding program can be adjusted to meet almost any demand. Rats under twenty-five days and above forty are not suitable for the test. By the use of a similar program rabbits of the correct age are available also.

The strain of rats at hand is tested every three months for sensitivity to the hormone of pregnancy urine. This factor, when all other factors of the test are perfectly controlled, insures maximum accuracy in the early diagnosis of pregnancy.

The first morning specimen is preferable and should be at least one-half ounce in amount. Clean bottles are essential. Specimens obtained by catheterization are desirable, but not necessary. The container should be plainly labeled either by number or name and the label should also bear the date the specimen was obtained. Out-of-town samples should be dispatched in a mailing tube. Fifteen grains of boric acid should be added to the specimen before mailing. No other antiseptic should be used.

Every test is run by me personally and results are reported only to the physician who requested the test.

For your convenience, the following is a brief summary of the indications for test:

1. In early cases in which a diagnosis is urgent, before the characteristic examination signs have developed.
2. To rule out pregnancy in cases of amenorrhea preceding the menopause.
3. In the diagnosis of ectopic pregnancy in doubtful cases.
4. Following abortion to indicate the absence or presence of chorionic tissue.
5. In suspected cases of chorionepithelioma.
6. In suspected but not proven cases of hydatic mole.
7. In unmarried cases where the history and examination do not rule out pregnancy.

I am prepared to run these tests for you at any time and would be glad to do so at a charge of $5.00 per test, which is necessary for overhead expenses.

Yours truly,
J. B. Looper, Ph.D., M.D.,
Professor of Anatomy.

GRADUATE MEDICAL INSTRUCTION

Designed primarily for the country doctor, a week of intensive graduate medical instruction will be conducted October 23-28 by the school of medicine at Tulane University, Dr. H. W. Kostmayer, director of the department of graduate studies, announced today.

The program will cover briefly the entire field of medicine and general surgery in the light of modern trends and developments, Dr. Kostmayer said. It will afford practitioners removed from the great medical centers opportunity to keep abreast of progress in the profession.

Conducted annually at Tulane, the program is scheduled as part of the university's homecoming week which will end with the Tulane-Ole Miss football game, October 28.

Instruction will consist of a series of dry clinics and lectures by members of the Tulane medical faculty.

All licensed members of the medical profession are eligible to attend clinics and lectures upon payment of a $5 registration fee.

PUBLIC HEALTH NEWS

The new building for the Lauderdale County Health Department will be dedicated to the people of that county and Meridian on October 4. Financed almost entirely by the Commonwealth Fund, it is one of the most modern of its kind in the South and stands as a monument to the health progress of the whole state. The Commonwealth Fund spent about $50,000 in its construction and equipment. In addition to housing the county health department, the new structure will also provide quarters and facilities for a Mississippi State Training Center for public health personnel. Nurses, health officers, sanitarians, and others will receive a three months' period of field training here before assuming their respective positions in other county health departments in the state.

The State Board of Health has received noteworthy assistance from the Commonwealth Fund, U. S. Public Health Service, and other organizations in its "personal training" program. "The better trained workers we have, the better we can raise health standards in Mississippi," states Dr. Felix J. Underwood. Scholarships have been provided Miss Ruth Smith and Miss Dorothy Strahan of the State Hygienic Laboratory to take post-graduate laboratory study at Johns Hopkins University. Miss Opal Regan, field advisory nurse, will take public health nursing courses at Columbia University, and Miss Eleanor Hassell, assistant supervisor of health education will study public health education measures under Dr. C. E. A. Winslow and Professor Ira V. Hiscock, Yale University.

Appearing before the American Congress on Obstetrics and Gynecology in Cleveland, Ohio, September 12, in a discussion of "Providing Continuity of Maternal Care in Rural Areas," Dr. Underwood described, "As the Health Officer Sees It". This paper was discussed by Dr. John M. Saunders, Nashville.

Dr. W. K. Sharp, New Orleans, Regional Consultant of the U. S. Public Health Service, and Miss Carolina Randolph, Association Director of the Division of Health Studies of the Commonwealth Fund, visited the State Board of Health recently to make comparative studies of Mississippi's health activities. Miss Randolph compared the work being done in the counties, while Dr. Sharp made a study of the state health program.

The regular bi-monthly staff conferences of the State Board of Health are being resumed September 23, at which time a schoolman, Prof. R. H. Watkins, Laurel City Schools, will discuss: "County Health Work from the Layman's Point of View, Particularly in Relation to Schools."

HEALTH ON THE AIR, WJDX, JACKSON, (Time: 8:30 a. m.)

Cancer—Dr. Felix J. Underwood, October 7.

Mouth Health—Miss Gladys Eyrich, (Time 9:00 a. m.)*, October 14.

Child Care—Dr. J. A. Milne, October 21.

Eating for Health—Dr. Felix J. Underwood, October 28.

*Daylight Saving Time ended September 23, 1939.

A new photostat machine has been purchased by the State Board of Health to speed up the recording of birth and death certificates in the Vital Statistics Department. The new machine will do the work of several persons, issuing as many duplicate copies as necessary. One instance of the need for this additional speed was the heavy requests for proof of voters' ages in the recent election.

Mississippi's Vital Statistics Department and its director, Dr. R. N. Whitfield, were highly praised in a recent issue of "The Registrar", Washington census publication. Dr. Halbert L. Dunn, Chief Statistician, Division of Vital Statistics of the Bureau of Census, called attention to Mississippi's pioneering into new registrar methods, particularly the new county system of registrars.

Mr. Robert Lenhart and also Mr. Walter H. Lackey, officials of the Bureau of Census conferred with Dr. Whitfield during the month.

Other visitors to the State Board of Health included Dr. F. S. Williams, Director of Venereal Disease Control in Louisiana, Miss Eva K. Logue Westminister, Maryland, in the interest of public health nursing, Miss Deloras Goodenow, hygienist at Friends College in

Highgate, Jamaica, and Miss Mary Louise Marshall, Librarian, Tulane University School of Medicine.

Three public health nurses who have recently completed courses at Peabody College, Nashville, will be added to the staff at the State Board of Health soon, according to Miss Mary D. Osborne, Supervisor of Public Health Nurses. They are: Miss Maxine Baker, to be assigned to Sunflower County, Miss Agnes Gatlin, Coahoma County, and Miss Sylvia Menking, Monroe County.

Dr. J. H. Hines, Director of the Madison County Health Department for the past year, has gone to Vanderbilt for a three months' course in public health and syphilis studies. Dr. E. W. Ryan of Lee County, will direct the work of the Madison Health Department in Dr. Hines' absence.

A special meeting of sanitation supervisors was held at Indianola recently to discuss problems peculiar to the Delta counties, according to Mr. H. A. Kroeze, State Director of Sanitary Engineering. Supervisors from Tunica, Coahoma, Bolivar, Tallahatchie, Leflore, Sunflower, Washington, Humphreys, Holmes, Yazoo, Sharkey counties were in attendance. Every angle of food sanitation was discussed, each supervisor reporting on the enforcement of food regulations and problems in his county.

As chairman of the Maternal and Child Health Committee of the State and Territorial Health Officers, Dr. Felix J. Underwood held a meeting of the Committee in Washington September 9 to make plans for the extension of services and further improvement of maternal and child health programs in the United States and its territories.

The annual meeting of the Mississippi Tuberculosis Association was held in Jackson, September 15. Mississippi is said to be far behind other states with sanatorium facilities and it has been pointed out that more than 50 people die of tuberculosis in the state every month due to lack of treatment. There were 1,164 deaths from this cause recorded for the state last year, despite the fact that all tuberculosis deaths are now considered preventable. The sanatorium has a maximum capacity of 425 beds, approximately 100 of which are now idle because of insufficient operating funds.

Dr. Felix J. Underwood addressed the group on "Recent Increase in County Health Units and the Need for More Adequate Financial Support to the State Board of Health and State Sanatorium"; Dr. Henry Boswell talked on "The Mississippi State Sanatorium is Small: How to Make It Larger"; and Mr. Logan McLean discussed "What County Organizations Have Done and What the State Office is Doing."

The association re-elected the following officers: Judge J. H. Price, Magnolia, president; W. D. Deterly, Natchez, vice-president; E. E. Laird, Jackson, treasurer; Logan H. McLean, Jackson, executive secretary.

The Executive Committee of the Mississippi Public Health Association met in the Medical Library of the State Board of Health September 16 and formulated plans for the annual meeting of the association which will be held in December.

MISSISSIPPI MORBIDITY STATISTICS
APRIL 1—JUNE 30 1939

	White	Col.	State Total
Acute Poliomyelitis	2	2	4
Amebic Dysentery	448	140	588
Bacillary Dysentery	3302	1827	5129
Cancer	456	236	692
Chickenpox	1100	527	1627
Dengue	6	0	6
Diphtheria	42	32	74
Gonorrhea	2976	4860	7836
Hookworm	1687	118	1805
Influenza	8866	6238	15104
Malaria	6272	4135	10407
Measles	5107	1390	6497
Meningococcus Meningitis	6	3	9
Meningitis, other forms	8	4	12
Mumps	727	246	973
Ophthalmia Neonatorum	5	14	19
Pellagra	658	895	1553
Puerperal Septicemia	34	38	72
Rabies, in animals			38
Scarlet Fever	25	3	28
Smallpox	2	4	6
Syphilis	1498	5952	7450
Trachoma	11	9	20
Tuberculosis, Pulmonary	149	257	406
Tuberculosis, other forms	4	8	12
Typhoid Fever	10	23	33
Typhus Fever	3	0	3
Undulant Fever	4	2	6
Whooping Cough	2382	835	3217
Tularemia	0	1	1

(Percentage of physicians reporting, 92.0)

Thus we see the number of cases of illness occurring within the 90-day period, April 1-June 30, this year. Most of these diseases are entirely preventable and could have been prevented. Think of the number of cases of preventable diseases occurring during the entire year, 365 days! It is readily seen and appreciated that the physicians of the state in cooperation with the public health workers have a big job ahead to bring under control this vast amount of preventable sickness among the people of the state.

CENTRAL MEDICAL SOCIETY

MONTHLY MEETING

State Hospital, Whitfield, Miss.

Tuesday, October 3, 1939, 6:30 P.M.

Dinner—Official Dining Room.

Introduction of Visitors.

PROGRAM:

1. "Modern Psychiatry at the Descriptive Level"—15 min.—Dr. E. G. Meriweather. Discussioned opened by Dr. L. W. Willey.
2. "Psychosis with Pellagra; Preliminary Reports of Introspinal Treatment with Synthetic Vitamin B-1"—15 min.—Dr. W. L. Waldron. Discussion opened by Dr. W. B. Harpole.
3. "Differential Diagnosis Between Paranoid Condition and Dementia Praecox, Paranoid Type."—5 min.—Dr. V. D. Thomas.
4. "Some Aspects of Metrazol Therapy." —15 min.—Dr. C. H. Denser. Discussion opened by Dr. Estelle A. Magiera. Discussion illustrated with motion picture.
5. "Fever Therapy in Central Nervous System Syphilis."—15 min.—Dr. F. M. Clarke and Dr. F. A. Donaldson.
6. Short discussion by Dr. C. D. Mitchell, Superintendent.

Drive east from Jackson on Highway 80, turn right on the first blacktop road and follow this road about five miles which will lead you into the State Hospital Grounds.

H. C. RICKS, M.D., Secretary.

COAHOMA COUNTY MEDICAL SOCIETY AND CLARKSDALE HOSPITAL MEDICAL STAFF

Minutes:

The meeting was called to order in the dining room of the Alcazar Hotel immediately after lunch on Wednesday, September 13, 1939. The minutes of the previous meeting were approved as read. There being no old or new business, the scientific session then began.

Dr. W. H. Brandon read a paper on "Gonococcal Vaginitis in Children." This was discussed by all members present.

There being no further business, the meeting adjourned.

September 13, 1939 Julius L. Levy, M.D.
Clarksdale. Secretary and Treasurer.

DESOTO COUNTY

Herodotus (500 B.C.) describes Egypt, notwithstanding its fine climate, as being full of medical practitioners, who were all "specialists." The ophthalmic surgeons were celebrated, and practiced at the court of Cyrus.

On the bit was the late Judge W. W. Magruder in charging the Oktibbeha County grand jury at Starkville some years ago. Declaring that the entire nation was confronted with a collapse of moral values, Judge Magruder turned to the liquor situation, added: "Whiskey is as innocent as a cotton mouth moccasin, as gentle as a saber-toothed tiger, as beneficial to a human as the virus of hydrophobia and as sweet and purt as a dead buzzard on a nest of rotten eggs."

The guillotine, the French instrument for inflicting capital punishment by decapitation, is so-called because it was proposed by Dr. Guillotine (1738-1814), a physician who was a member of the Constituent Assembly in 1789. Dr. Guillotine did not, as has often been stated, perish by the instrument which bears his name, but died a natural death.

When the Southern Medical Association meets in Memphis, Tenn., in November a record attendance is anticipated. The program will be elaborate as will be the social features. Reunion of classes, meeting of friends of college and hospital days will be events of pleasure.

Dr. Louis E. Bisch, author of "Be Glad You're Neurotic," writes recently "Turn Your Sickness Into an Asset," concludes thusly: "If you have never been sick, never lost so much as a day in bed—then you have missed something. When your turn comes, don't be dismayed. Remind yourself that pain and suffering may teach otherwise. Possibly it may change for the better the entire course of your life. You and those around you will be happier if you can look upon any illness as a blessing in disguise, and wisely determine to make the most of it. You can turn your sickness into an asset."

Dr. and Mrs. James A. Rhodes of Horn Lake take great pleasure in visiting their grandchildren and entertaining them in their home. Their daughter, Ruth, is now Mrs. David Hughes of Oxford. Ruth met David while both attended the University. Dr. Rhodes in his leisure moments assists Mrs. Rhodes, who is the efficient postmistress in her home town.

In an early edition of this esteemed journal we expect to publish an autobiography of Dr. Rhodes, giving the salient features of an interesting life.

In the death recently of Dr. Battle Malone of Memphis, the Mid-South lost an outstanding man, an exceptional surgeon, a good citizen and a man of varied abilities; we have known Battle a number of years and he had a spirit that was unruffled and unafraid. Such a life speaks for itself.

Rt. 4, Memphis, Tenn. L. L. Minor,
September 20, 1939. County Editor.

THE MONTHLY BULLETIN OF THE ISSAQUENA-SHARKEY-WARREN COUNTIES MEDICAL SOCIETY

Regular monthly meeting Elks Club, September 12, 7:30 P.M.

PROGRAM

By Out-of-Town Doctors This Month

"Report of Phrenic Nerve Operation."—Dr. Wiemers.

"Report on Pneumothorax Therapy"—Dr. Robbins.

"Report on Extra-Pleural Pneumothorax"—Dr. Lilienthal.

"Report on Thoracoplasties and Other Operations"—Dr. Harter.

"The Significance of the Collapse Therapy Program at the Mississippi State Sanatorium"—Dr. Boswell.

Above is the program that was put on for us by the surgeons of the Mississippi State Sanatorium. It was one of the most outstanding programs of our entire year and unquestionably will be of great interest to all surgeons.

Following the two excellent papers last month by Dr. Messina and Dr. Sanderson, an excellent discussion was given. It is to be hoped that such excellent discussions will follow all our papers in the future.

The Board of Censors has approved the application of Dr. Bradley Brownson and this will be voted on at our next meeting Tuesday night.

ALSTON CALLAHAN, Vicksburg.

Minds that have nothing to confer find little to perceive.—Wordsworth.

The fame of great men ought always to be estimated by the means used to acquire it.—La Rochefoucauld.

It is the age that forms the man, not the man that forms the age.—Macaulay.

Many individuals have, like uncut diamonds, shining qualities beneath a rough exterior.—Juvenal.

SUGGESTED RADIO TALKS TO BE PRESENTED BY THE ISSAQUENA-SHARKEY-WARREN COUNTIES MEDICAL SOCIETY

Fourth Quarter—1939

Every Wednesday from 1:00 to 1:15 P.M.

October 4.—"Madame Marie Curie — Her Contribution to Mankind"—Dr. H. H. Johnston.

October 11. — "Florence Nightingale, Her Contribution to Mankind"—Dr. G. C. Jarratt.

October 18.—"Mary Peetman Jacobi—Her Contribution to Mankind"—Dr. W. E. Johnston.

October 25.—"Jose Rizal—His Contribution to Civilization"—Dr. Edley H. Jones.

November 1.—"Oliver Wendell Holmes — Contribution to Medicine and Man"—S. W. Johnston.

November 8.—"John McCrae—Contribution to Civilization"—Dr. I. C. Knox.

November 15.—"Robert McKenzie"—Dr. Nathan B. Lewis.

November 22.—"Donald Ross—Contribution to Mankind"—Dr. L. S. Lippincott.

November 29.—"James Graham—Emperor of Quacks"—Dr. B. B. Martin, Jr.

December 6. — "John St. Johns" (Also a quack)—Dr. A. J. Messina.

December 13.—"Patria Manson"—Dr. B. B. Martin.

December 20.—"Surgeons I Have Known"—Dr. W. H. Parsons.

December 27.—"Alphonso Lavoran"—Dr. D. A. Pettit.

NORTHEAST MISSISSIPPI THIRTEEN COUNTIES SOCIETY ADOPTS RESOLUTIONS

At a meeting of the Northeast Mississippi Thirteen Counties Medical Society held in the City Hall at Aberdeen on September 12, 1939, the following resolutions were adopted:

Be it resolved that it is the sense of this society that the legislature of the state of Mississippi should, at its next session, to be held in January, 1940, appropriate a sum of not less than fifty cents per capita, this money to be used for hospitalization and medical care of the indigent and medically indigent of the state of Mississippi. Be it further resolved that approximately (but not more than) forty per cent of this sum shall be used to pay for the hospitalization of surgical cases that cannot be properly cared for in the homes of such cases. Be it further resolved that approximately (but not less than) forty per cent of this sum be used to compensate doctors who may attend such indigent sick cases, in their homes. Be it further resolved that from ten to fifteen per cent of this sum be earmarked and held in reserve for the purchase of drugs and such necessary articles, that may be prescribed by the attending physicians, for such indigents as may be treated in their homes. Be it further resolved that five per cent (or such part thereof as may be found necessary) may be used for administrative purposes.

* * * *

After the adoption of the above resolution a motion prevailed that Dr. G. S. Bryan be named as chairman of a committee of five (he to name four associate members of such committee) whose duty it should be to draft appropriate resolutions and forward the same to the president of the state association, requesting him to call a meeting of the council of the association, and to ask that body to consider and to take such action as seems proper in the presentation of the above matters to the governor-elect and the members-elect of the next legislature.

* * * *

Acting under the authority of the above motion, the following committee was appointed by the chairman, Dr. G. S. Bryan:- Drs. L. L. McDougal, J. A. Rayburn, E. K. Guinn, and C. E. Boyd.

Subsequently, the chairman called a meeting of this committee to be held in Tupelo at 6 P.M., September 19, 1939.

* * * *

Pursuant to call, the above committee met in Tupelo and elected Dr. C. E. Boyd secretary.

The following resolutions were adopted:

BE IT RESOLVED by this committee, it having been created by the Northeast Mississippi Thirteen Counties Medical Society at a meeting held in Aberdeen on September 12, and authorized to act for said medical society, in certain matters, hereby requests Dr. J. P. Wall, president of the Mississippi State Medical Association, to call at some early date a meeting of the councilors of said medical association for the purpose of considering the question requesting the governor of Mississippi and the members of the next legislature to increase the appropriation for the hospitalization and medical care of the indigent and medically indigent residents of Mississippi, from fifteen cents per capita to not less than fifty cents per capita;

BE IT FURTHER RESOLVED that that part of the minutes of the above mentioned meeting at Aberdeen on September 12, creating and sponsoring the committee be attached to these resolutions and transmitted to President Wall at Jackson, Mississippi;

That this committee and the Northeast Mississippi Thirteen Counties Medical Society request our senators and members of the lower house of Congress to use their influence to have the Federal Government appropriate a sum of not less than one dollar per capita for the purpose set forth above, this sum to be distributed among the states proportionate to the population of each state.

That these separate appropriations be placed in the hands of some responsible persons being selected and approved according to some reasonable plan by the legislature of each separate state;

That this committee believes the sums suggested above would adequately supply all needed hospital and medical care for the indigent of the state and nation, and that the appropriation would meet the purpose of the Wagner Bill in a satisfactory way;

BE IT THEREFORE RESOLVED that the suggestions accompanying these resolutions be submitted to our president and members of the council in a most respectful way for their careful consideration.

A motion to adjourn prevailed.

(Signed):

G. S. BRYAN, Chairman
C. E. BOYD, Secretary.

* * * *

Analysis and Suggestions

If the appropriations requested in the accompanying resolutions should be made, Mississippi would have, in round figures, about three million dollars to spend for hospital and medical care of its indigent citiens. Forty per cent of this sum would abundantly provide for all surgical cases that might need to be hospitalized. The hospitals of the state would be assured of paying patrons sufficient to guarantee their support. The members of hospital staffs would be willing, we are sure, to continue to give their services free, as they now do. Forty per cent of this fund, if made available for compensation of doctors who might be called by the individual indigent patients to treat them at their homes, would be adequate to secure this treatment (especially since it is not being given by the doctors without any hope of remuneration). These indigents must be cared for and it is impossible for the doctors to carry this load of free service longer. Besides it is not right nor fair to expect them to do so. Fifteen per cent of this fund will adequately supply needed drugs for these unfortunate people. Five per cent is more than sufficient to care for necessary administrative expense. In Alabama, where much contract practice is done in the industrial districts, from eighteen to nineteen dollars per year is found sufficient to care for the families who need medical care.

If direct and work relief is to continue, as it certainly must, each individual on relief has a card and number assigned. We believe that the presentation of this card of identification should be all the authority that any doctor should need for authorization of such medical care as may be needed. Then there could be no question as to each patient getting the doctor of his choice. All bills should be presented monthly for review and approval by some adequate and responsible committee. This committee should be composed of members of each county medical society (or should certainly have one member named by the county medical society). If funds should be inadequate to pay all bills at any time, a proportionate per cent of all bills should be paid and the remainder held over for future adjustment.

* * * *

Of course, these are but suggestions. The council should consider all phases of this momentous question, and make suggestions to the legislative committee, who, after all, must bear the brunt of responsibility to the needy sick, first, then to the overworked and underpaid doctors of the state and nation and finally to the tax payers. However, these must and should furnish the funds to meet this inescapable responsibility.

Woman's Auxiliary

TO THE MISSISSIPPI STATE MEDICAL ASS'N

President	Mrs. Hugh H. Johnston Vicksburg
President -elect	Mrs. E. C. Parker Gulfport
First Vice-President	Mrs. John B. Howell Canton
Second Vice-President	Mrs. W. H. Cleveland Tupelo
Third Vice-President	Mrs. W. H. Anderson Booneville
Fourth Vice-President	Mrs. H. E. Frizell Vaughn
Recording Secretary	Mrs. W. K. Stowers Natchez
Treasurer	Mrs. J. D. Simmons Cleveland
Historian	Mrs. Harvey F. Garrison Jackson
Parliamentarian	Mrs. V. B. Philpot Houston
Research on History of Medicine	Dr. Emma Gay Biloxi
Public Relations	Mrs. L. J. Clark Vicksburg
Public Policy and Legislation	Mrs. Adna G. Wilde Jackson
Honorary President	Mrs. Dan J. Williams Gulfport

CENTRAL MEDICAL SOCIETY

The first meeting of the Women's Auxiliary to the Central Medical Society for the year, 1939-1940, was held at the home of the president, Mrs. H. C. Sheffield, on Tuesday, October 3, in Jackson. During the meeting new officers for the year were introduced as follows:

President, Mrs. H. C. Sheffield, Jackson; Vice-President, Mrs. J. A. Milne, Jackson; Secretary, Mrs. J. C. Henthorne, Jackson; Treasurer, Mrs. George E. Riley, Jackson; Historian, Mrs. F. L. VanAlstine, Jackson; Parliamentarian, Mrs. J. S. Harter, Sanatorium

Three new members, Mrs. P. T. Erickson, Mrs. Charles E. Ward and Mrs. T. A. Baines, were welcomed into the Auxiliary. After the meeting delicious refreshments were served to the following members:

Mrs. T. A. Baines, Mrs. W. R. Bethea, Mrs. W. B. Dobson, Mrs. H. F. Garrison, Sr., Mrs. A. L. Gray, Mrs. P. R. Greaves, Mrs. N. R. Curry, Mrs.P. T. Erickson, Mrs. F. D. Hollowell, Mrs. Toxey Hall, Mrs. W. F. Hand, Mrs. H. R. Hayes, Mrs. J. C. Henthorne, Mrs. I. C. Huggins, Mrs. W. L. Hughes, Mrs. T. W. Kemmerer, Mrs. L. W. Long, Mrs. C. F. Mackenzie, Mrs. J. E. McDill, Mrs. J. A. Milne, Mrs. G. W. Owen, Mrs. H. C. Ricks, Mrs. George Riley, Mrs. H. C. Sheffield, Mrs. W. C. Spencer, Mrs. Cecil Walley, Mrs. Charles Ward, Mrs. R. R. Welch, Mrs., T. E. Wilson, of Jackson; Mrs. B. C. Edwards, of Edwards; Mrs. John B. Howell, Canton; Mrs. W. B. Harpole, Mrs. B. J. Marshall, Mrs. V. D. Thomas, and Mrs. W. L. Waldron, of Whitfield.

NORTHEAST MISSISSIPPI THIRTEEN COUNTIES MEDICAL AUXILIARY

The Auxiliary to the Northeast Mississippi Thirteen Counties Medical Society was delightfully entertained at its third quarterly meeting at the charming antebellum home of Mrs. J. M. Acker in Aberdeen, Sept. 12. Mrs. Dickson assisted Mrs. Acker with the hospitality.

Mrs. V. B. Philpot, Houston, presided in her usual efficient manner. Mrs. Stanley Hill, of Corinth, and Mrs. P. S. Johnson, of Caledonia, were welcomed as new members.

Dr. W. H. Anderson, president-elect of the Mississippi State Medical Association, brought a message to the members, after which Mrs. Watkins, accompanied by Mrs. McFarland. both of Aberdeen, gave two beautifully rendered vocal selections. The objectives of the Auxiliary were then briefly presented by Mrs.

W. H. Anderson, of Booneville.

Assisted by Miss Acker, daughter of the hostess, Mrs. Acker served a dainty ice course at the conclusion of the meeting. The guests were afterward invited to visit the Acker and Dickson gardens, which were included in the Aberdeen Garden Pilgrimage in the spring.

FOUR-COUNTY MEDICAL AUXILIARY

Mrs. R. B. Caldwell and Mrs. Robert Christian graciously welcomed the members of the Four-County Auxiliary to Baldwyn September 19. A wealth of dahlias and other cut flowers adorned the downtown tearoom where the hostesses entertained the group.

Mrs. Christian, president, presided over the meeting.

The chief business for the afternoon was the election of officers for another year. The following were chosen: Mrs. W. L. Orr, Fulton, president; Mrs. W. H. Eason, Tupelo, vice-president, and Mrs. J. H. Green, sec.-treas.

Delightful refreshments were served as a climax to the hospitality.

SOUTH MISSISSIPPI AUXILIARY*

The fall meeting of the Ladies' Auxiliary to the South Mississippi Medical Society was held Thursday afternoon, September 21, in Hattiesburg, at the Forrest Hotel, with the president, Mrs. R. H. Clark, of Hattiesburg, presiding. The following committees were appointed:

Social Service and Preventorium: Mrs. A. K. Ramsey, Laurel, chairman; Layette, Mrs. W. W. Crawford, Hattiesburg, chairman, with Miss Dovie Adams, Methodist Hospital, and Mrs. E. W. Green of Hattiesburg; Courtesy, Mrs. B. D. Blackwelder, Hattiesburg, chairman; Christmas Party, Mrs. H. C. McLeod, Hattiesburg, chairman, with all members of the Auxiliary as members of the committee.

Mrs. C. C. Hightower, Hattiesburg, leader of the program, read

A DOCTOR'S PRAYER

"Oh, God, I pray that I may have absolute intellectual honesty. Let me, the physician, cleave to the clear truth, assume no knowledge I have not, and claim no skill I do not possess. Cleanse me from all credulities, all stubbornness, vanities, egotism, prejudice and whatever else may clog the sound process of my mind. Make my personality as asceptic as my instruments. Make my thoughts clear as the stars and my hands skilfully strong as steel. Deliver me from professionalism, so that I may be always human, and minister to sickly minds as well as to ailing bodies. Let me of all men be sober and walk in fear of eternal justice. Let no ignorance of mine, neglect, nor love of ease, spoil the worth of my high calling.

"Give me the joy of healing. I know how far short I am of being a good man, but make me a good doctor. Give me that love and eagerness and pride in my work without which the practice of my profession will be fatal to me and to them under my care.

"Give me courage, but hold me back from over-confidence. Let me discharge my office that I shall not be ashamed to look any man or woman in the face, and when at death I lay down my task I shall go to what judgment awaits me, strong in the consciousness that I have done something toward alleviating the incurable tragedies of life."

"Amen."

A round-table discussion was held on the aims and ideals of a medical auxiliary.

The next meeting of the auxiliary will be a joint meeting of the South Mississippi Medical Society and the Auxiliary in Hattiesburg, December 21, and will be the Christmas party.

Dr. J. N. Mason, of Purvis, and Miss Rachel Crook, of Lumberton, were married recently and are now at home in Purvis.

Charles Hightower, son of Dr. and Mrs. C. C. Hightower of Hattiesburg, has returned to Austin, Texas, where he is a senior in the pre-medical school of the University of Texas. Charles will receive his B.A. degree in the spring.

James Bethea, son of the late Dr. S. E. Bethea and Mrs. Bethea of Hattiesburg, entered his first year of medicine at Tulane, New Orleans, La.

Dr. L. B. Hudson, of Hattiesburg, who is a captain in the Mississippi National Guard, is attending a six weeks' army medical school at Carlisle Barracks, Penn. When Captain Hudson returns he will be in charge of the newly formed Medical Detachment, Company B, 106 Field Artillery.

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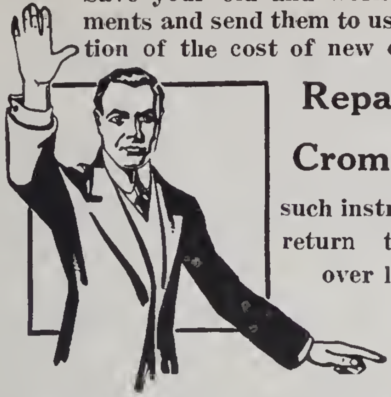

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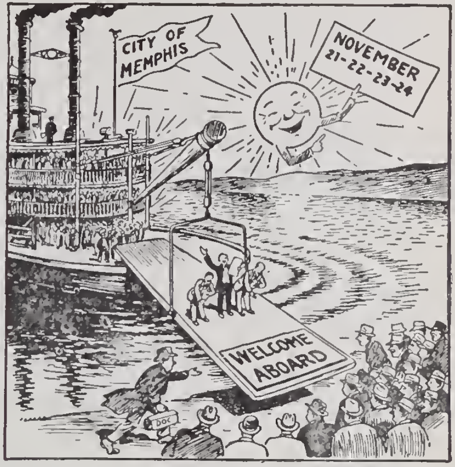

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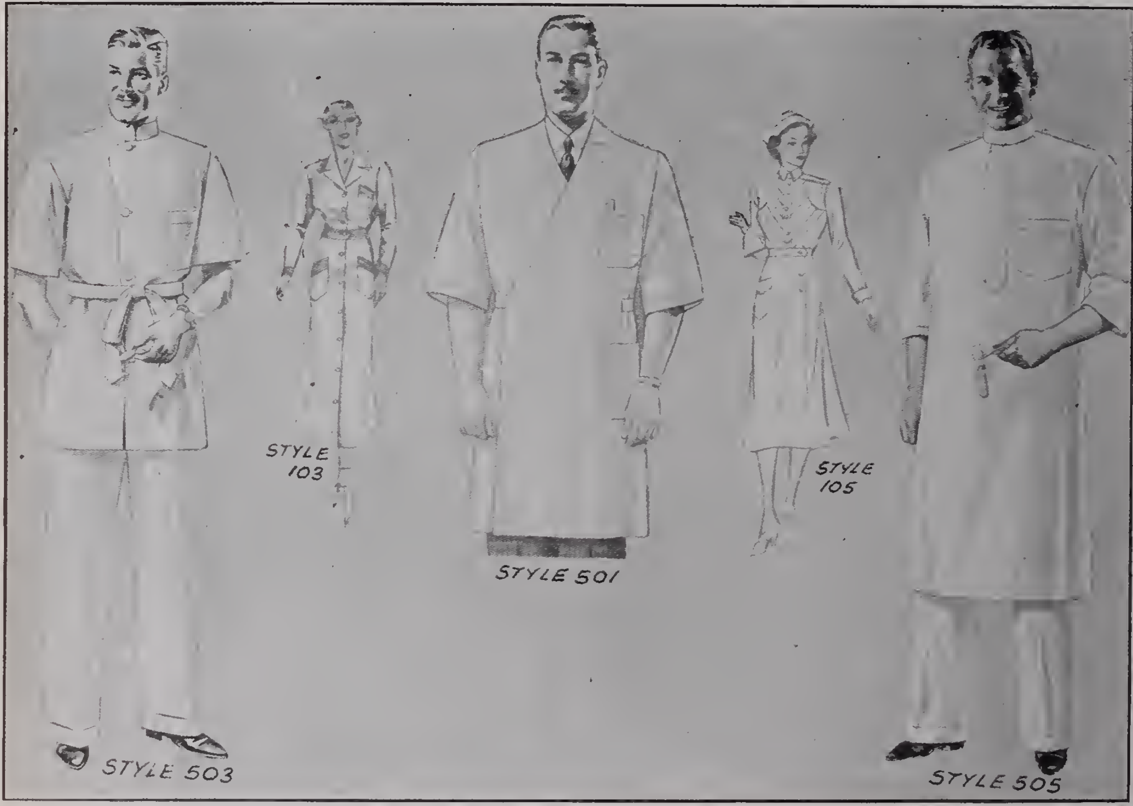
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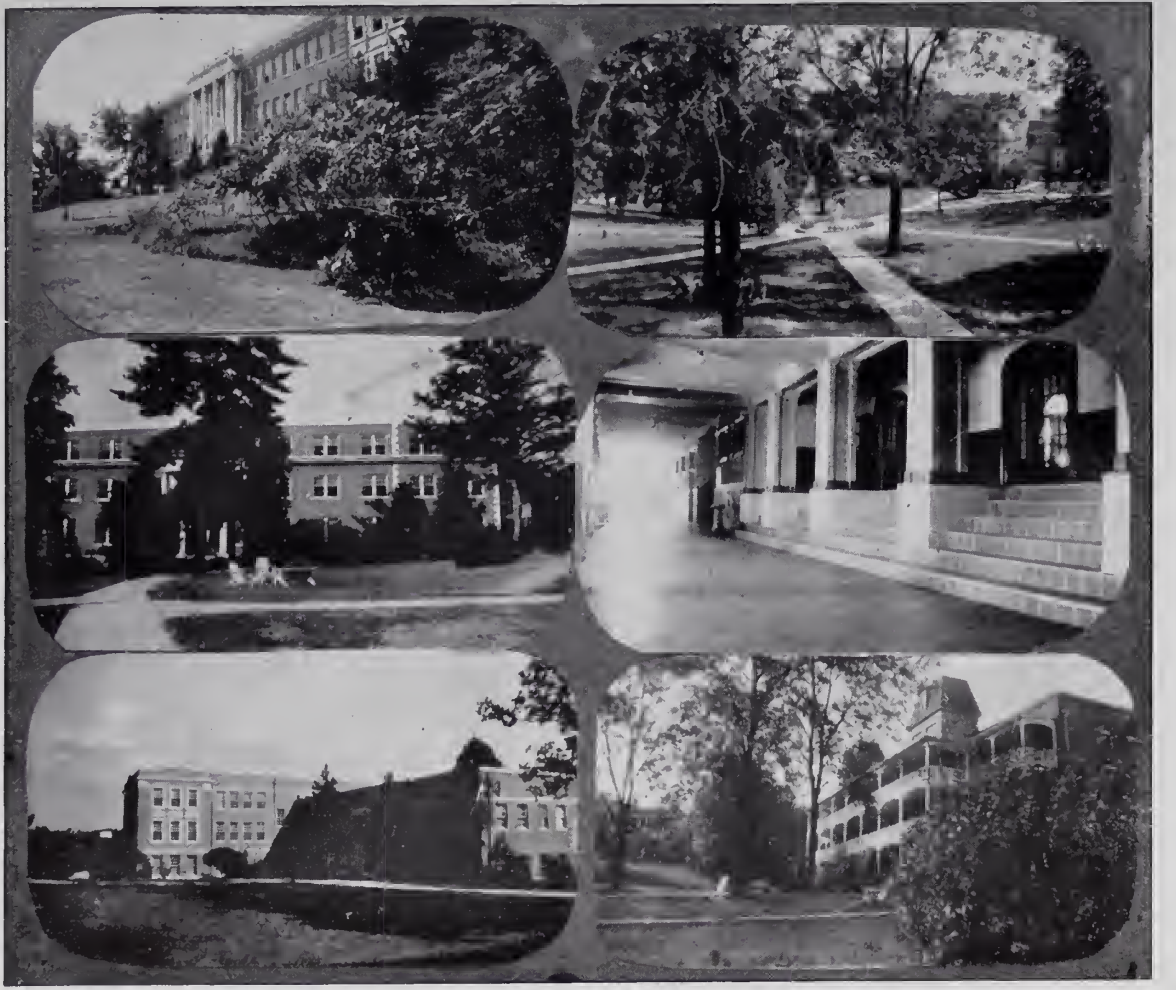

Beginning at top, left to right: Facade of Administration Building, A Campus Scene, Whitfield Residence Hall, Corridor of Administration Building, rear of Administration Building, Lowrey Residence Hall.

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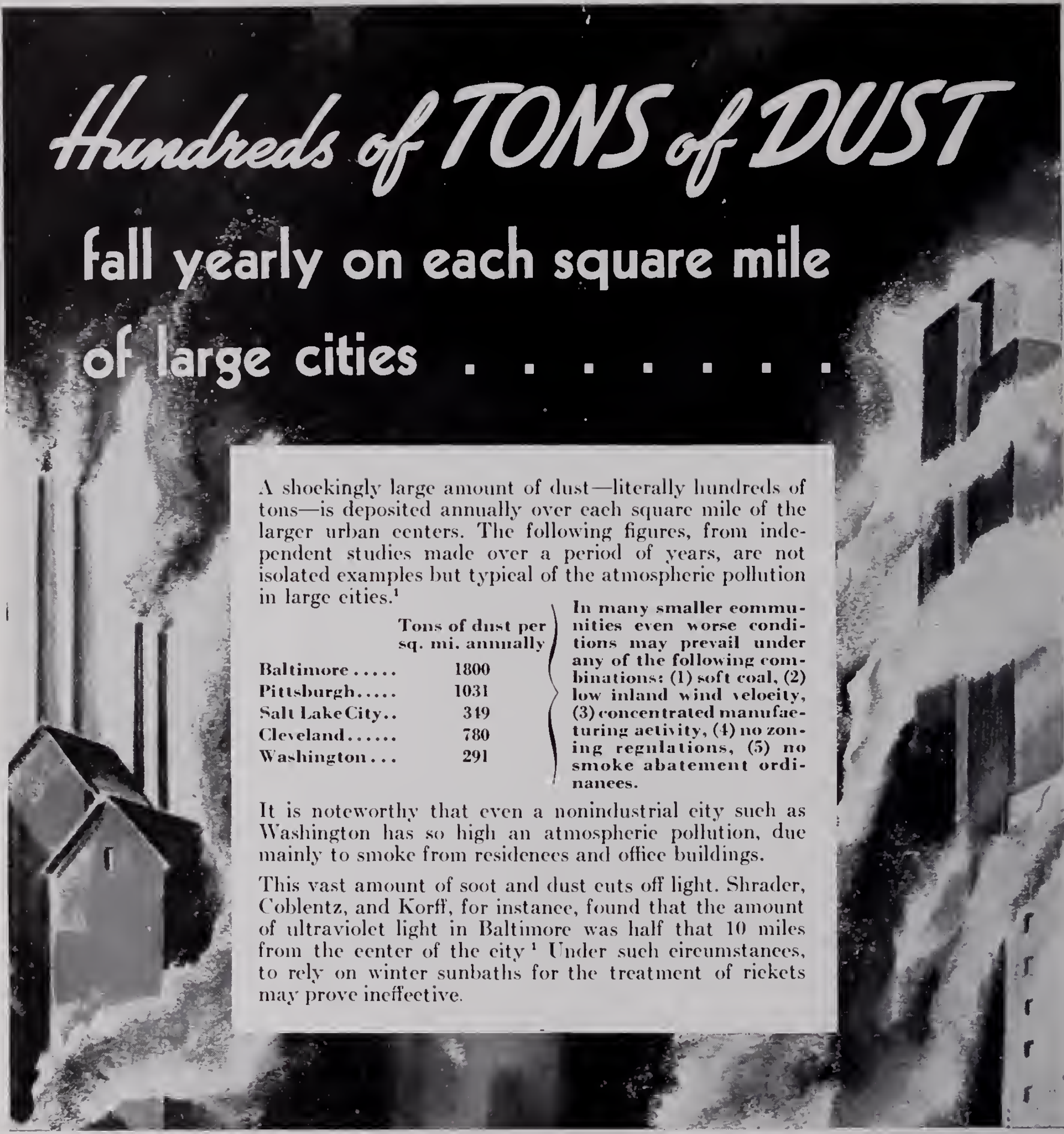
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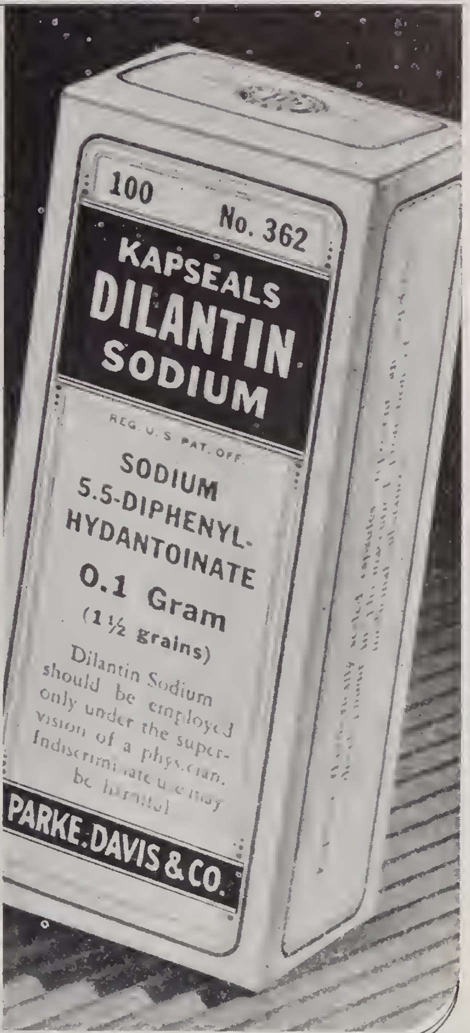
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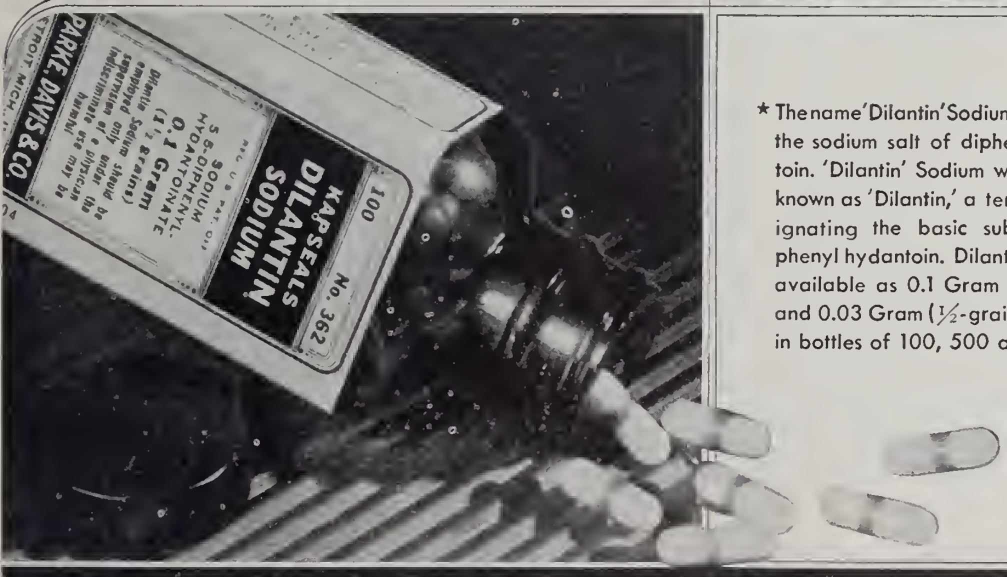
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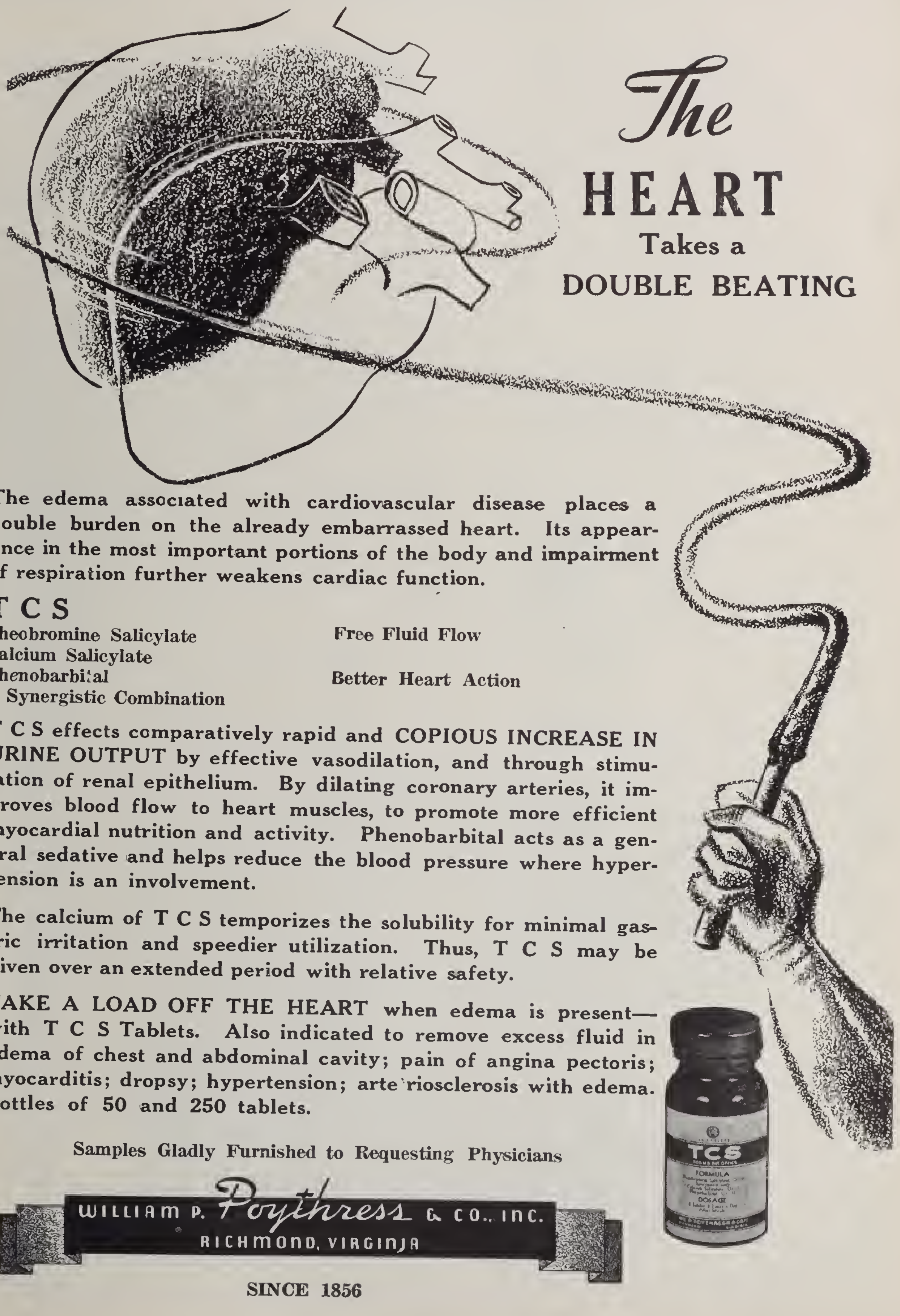

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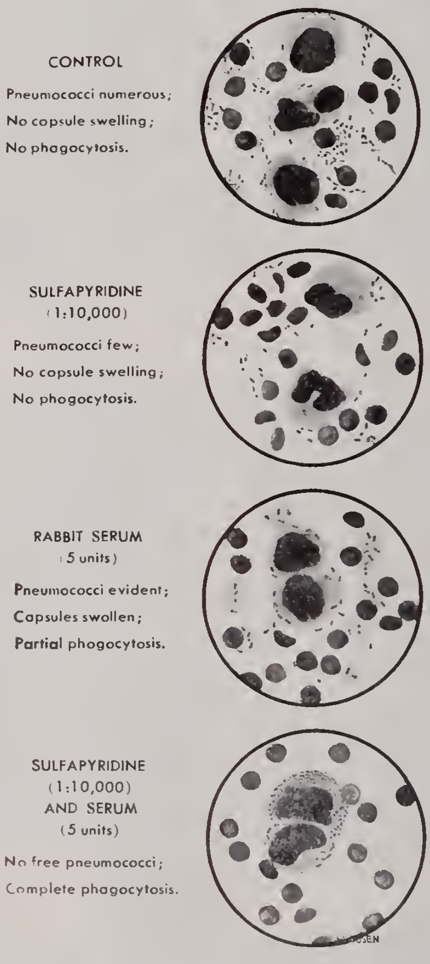
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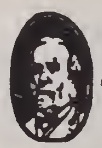

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Acute Abdominal Emergencies*

ARTHUR W. ALLEN, M.D.
Boston, Mass.

In considering acute abdominal symptoms, one must remember that it is essential to make a decision at the earliest possible moment whether or not the patient is suffering from a disease that requires emergency surgery. It may not be possible for the physician to arrive at a correct diagnosis at his first visit but he must decide what is the safest thing to do for the patient. Hospitalization should be carried out immediately in case the condition is one that is likely to develop into a situation warranting early surgery and in those cases requiring certain laboratory studies to clarify the diagnosis. Although frequently one cannot arrive at the correct diagnosis in an acute abdominal condition, one must make up his mind definitely whether the situation is one that is more safely operated upon than treated expectantly until the diagnosis is obvious. If one always waits until a correct diagnosis can be made before subjecting a patient with acute abdominal symptoms to surgery, the opportunity for saving that patient's life may be lost. After thorough study, the decision to explore under ideal conditions is far less hazardous than the overlooking of a lesion that carries a high mortality if allowed to advance to one of its more obvious stages.

In our discussion of this subject, we will present a number of outlines. These are to call our attention to the more common lesions causing acute abdominal pain and occasionally we will add an important key word or phrase which may direct us correctly in our management of such cases.

I. SURGICAL CONDITIONS

Acute Abdominal Emergencies

1. Traumatic Injuries
2. Acute Appendicitis
3. Acute Cholecystitis
4. Acute Pancreatitis
5. Perforated Ulcer
6. Intestinal Obstruction
7. Extra-uterine Pregnancy
8. Torsion of Ovary
9. Mesenteric Thrombosis

In outline I, we point out the nine most common causes for surgical interference for acute abdominal discomfort. We will discuss later each one of these subjects in more detail.

II. SURGICAL CONDITIONS

Non-Operative Emergencies

1. Diverticulitis
2. Tabes Mesenteria
3. Salpingitis
4. Ruptured Ovarian Follicle
5. Cholelithiasis
6. Ureteral Calculus

In outline II, we have listed six of the fairly common causes of abdominal discomfort which we believe do not require emergency surgery. In other words, if we can be sure of the diagnosis of these conditions which we have labeled non-operative emergencies, we can await developments. Some of them will require operation at a later date or at a time of election, and we must think of them in the presence of acute abdominal pain only from a standpoint of differential diagnosis just as we do with the diseases listed as medical conditions in outline III.

III. MEDICAL CONDITIONS

With Acute Abdominal Symptoms

1. Gastro-enteritis
2. Tabetic Gastric Crises
3. Lead Poisoning
4. Diabetic Coma
5. Typhoid Fever
6. Coronary Disease
7. Pleurisy — Pleurodynia
8. Pneumonia
9. Measles

Obviously, lesions that never warrant surgical operation must always be considered when trying to differentiate between a condition which requires immediate operation and one that does not require any operation at all. Here we have listed nine of the common causes of abdominal pain, which cause us to stop and think regarding the various manifestations which they occasionally present. It is incredible but true that many patients have been operated upon under the diagnosis of acute appendicitis when they complained of nausea, vomiting, and profuse diarrhea typical of acute gastro-enteritis from food poisoning, acute bacterial infection, etc. This error should rarely be made even in the presence of some increased tenderness in the right lower quadrant. One should in nearly every instance be able to differentiate between this condition and appendicitis.

---

*Read before the fifty-fourth annual session of the Mid-South Postgraduate Medical Assembly, February 14-17, 1939, Memphis, Tennessee.

Many patients have been subjected to emergency operations for the acute abdominal symptoms occurring in some cases of diabetic coma. This brings out a very important point and that is, that no patient should be subjected to any operation without having had the urine examined. A heavy test for sugar would cause one to investigate the problem from the standpoint of the abdominal symptoms occasionally associated with diabetes. On the other hand, one must admit that diabetics may have acute inflammatory conditions within the abdomen requiring operation. McKittrick[1] has found that acute cholecystitis in the diabetic never subsides like it may in the non-diabetic; however, he agrees that there is no emergency about the operation and that it can be delayed for hours and sometimes for two or three days until the patient can be put into better shape for the operation. Also, diabetics with real acute lesions within the abdomen rarely come into the hospital in coma.

We should also discuss the question of coronary disease. The surgeon is constantly worried that he may operate for an acute gall bladder, a perforated peptic ulcer, an intestinal obstruction or possibly more commonly for acute pancreatitis, only to realize after the operation that the acute abdominal symptoms and signs were due to coronary thrombosis. Usually this situation can be differentiated if a little care is taken and not too much hurry carried out concerning the operation. A few hours delay will nearly always clear up the diagnosis especially if an electrocardiographic tracing can be made.

We will also call attention especially to the last two diseases on the list; these are pneumonia and measles. Children coming down with measles and sometimes adults coming down with pneumonia will start with abdominal symptoms that will cause a considerable amount of speculation as to whether the disease does not arise within the abdomen. I have never seen a single patient with abdominal symptoms from pneumonia or measles who was not so vague regarding his localized tenderness or whose leukocyte count was not atypical, and the onset of his disease so different, that it was not possible to delay operation a few hours until the diagnosis could be more accurately established. This may be done by an early x-ray of the chest showing a central pneumonia or the careful examination of the inside of the mouth of the child for Koplik's spots. Nothing is more disastrous than to subject a patient with a medical disease to a surgical operation.

Now we will consider separately each of the surgical conditions regarded as an acute abdominal emergency and previously listed in outline I.

IV. TRAUMATIC INJURIES

A. Penetrating Wounds
   1. Stab—immediate operation
   2. Bullet or shrapnel—immediate operation, polyvalent antitetanus, anti-gas serum
   3. Shotgun—do not operate unless there is large defect in abdominal wall — polyvalent antitetanus, anti-gas serum.

B. Contused Wounds
   1. Hollow viscus, intestine, stomach, bladder (early operation imperative)
   2. Liver—lowest mortality without suture or packing.
   3. Spleen—immediate operation with splenectomy.
   4. Kidney—rarely needs immediate surgery.

There should be no question about the penetrating wounds of the abdomen. Regardless of how superficial these seem, one should not be led to believe that the wound is superficial unless the instrument with which it was made could not have penetrated the abdominal wall. It is very unfortunate to realize the next day that a hollow viscus has been penetrated by a sharp object. It is far better to open the wound, carefully resect the tract, and follow it as far as it goes. In bullet and shotgun wounds, it is wise to give a prophylactic dose of antitetanic serum. I believe a better protection for the patient may be had by using the newer polyvalent antitetanus and anti-gas bacillus serum now available. Penetrating wounds made by bullets, etc., should be operated upon and the openings in the hollow viscus carefully sought for and closed. This is particularly true if the patient is seen within twenty-four hours of his injury. In cases seen late, it may be better to Ochsnerize the patient and wait since the chance of spreading the peritonitis which nature is trying to localize will be greater after this lapse of time. Shotgun wounds at a distance are better treated expectantly. Laparotomy frequently does more harm than good since the perforations are so small. If they are at close range and have produced a large defect in the abdominal wall, then a serious careful meticulous operation must be carried out in an effort to save the patient's life.

Wounds produced by blunt force may cause injuries within the abdomen requiring surgery. Thus, a wagon wheel passing across the abdomen may entirely sever the duodenum or jejunum as it catches these structures at a fixed point against the spinal column. Also, after a heavy meal, a blow upon the abdomen may actually perforate the intestine or the stomach. A patient may fall on his abdomen and strike an object with sufficient force to rupture his intestine, his stomach, or his urinary bladder. Coasting accidents, automobile accidents, etc., may produce the same type of injury. An x-ray plate taken with the patient in the upright position will show gas under the diaphragm if the injured hollow viscus is intestine or stomach. A catheter specimen of urine will show only a small amount of blood in the bladder and practically no urine if the bladder itself is ruptured. In any hollow viscus injury, it is better to explore and be sure than it is to delay operation, since the mortality is in a direct ratio to the number of hours between injury and operation interference.

This is not true of injuries of the liver, spleen and kidney. In order to be sure that one is dealing with the liver or kidney, neither of which needs operation if the diagnosis can be made, one often has to explore to make this differential diagnosis. If the liver is found injured, one will find a large amount of blood within the abdominal cavity but on investigation of the rent in the liver itself, one will find it filled with blood clot and actually not bleeding very much. It is best to remove this blood from the abdominal cavity by suction and not disturb nature's tamponade of the liver itself. To remove the clot from the liver causes further bleeding and it is difficult to stop this by suture or by packing.

Blows over the kidney are apt to produce some temporary hemorrhage. In these cases, if the diagnosis can be made by the bloody urine which the patient will have in his bladder, it is best not to operate; rarely, is surgery indicated but occasionally a damaged kidney may become infected and require removal at some later date.

The spleen, however, is an entirely different problem. If one can make a diagnosis of a ruptured spleen, it is best to remove that organ as soon as the patient has recovered from shock. A good differential diagnostic point is the high leukocyte count, since in ruptured spleens, it may be found higher than one would expect from almost any other acute abdominal emergency except mesenteric thrombosis. One must bear in mind that a spleen which is ruptured may stop bleeding for a while, the patient recover from the shock and be up and around only to have the bleeding recur in a very alarming and profuse manner several days later. It is best not to temporize with a ruptured spleen by packing it, as actual removal of the organ is more satisfactory and more logical than trying to stop the hemorrhage by gauze packs or suture.

V APPENDICITIS

Inflammatory Type

A. Onset
  1. Vague abdominal pains.
  2. Malaise—loss of appetite—occasional vomiting.
  3. Gradual development of pain and tenderness in R. L. Q.
  4. Low fever and elevated white count.
  5. Slow (4 to 5 days) development of mass in R. L. Q.

B. Operative and Pathological Findings
  1. Inflammatory without obstruction of lumen of appendix.
  2. Omentum may be wrapped around it.
  3. Small localized walled-off abscess.

Now we come to the commonest of all of the abdominal surgical emergencies and that is, appendicitis. We have divided appendicitis into two main groups, the inflammatory and obstructive types. The former accounts for 75% of the cases; therefore, you will find that our outline is more or less of a textbook picture of appendicitis. This is the kind that does not perforate quickly and can be transported safely; one may even be justified in not considering it a middle-of-the-night emergency. Unfortunately, as this type is the more common with the symptoms better standardized, these cases are more apt to be operated upon early than the more dangerous type of appendicitis given in outline VI.

VI.

APPENDICITIS—OBSTRUCTIVE TYPE[1]

A. Onset
  1. Sudden severe generalized colic-like pain.
  2. Pain may be intermittent at first.
  3. Vomiting may be severe—early.
  4. No early abdominal signs except tenderness.
  5. Leukocyte count elevated early and rises.
  6. Normal temperature early.
  7. Sudden disappearance of pain—perforation.
  8. Diffuse peritonitis results.

B. Operative and Pathological Findings
  1. Early—
    a. Small amount of clear odorless fluid —later becomes cloudy.
    b. Appendix swollen, edematous, gangrenous.
    c. Fecolith in lumen.
  2. Late—
    a. Large amount of cloudy foul smelling fluid. Diffuse peritonitis.
    b. Necrotic appendix with perforation.

C. Interpretation
  1. Severe pain due to appendiceal colic.
  2. Vomiting due to pain and swollen mesentery.
  3. Swelling interferes with blood supply—necrosis
  4. Sudden relief usually means rupture W. B. C. increased.
  5. Perforation can occur in 4 hours.
  6. Rapid development prevents omental aid.
  7. Peritonitis spreads rapidly.
  8. Due to atypical onset, lack of fever, etc., this form accounts for 90% of appendicitis deaths.

Now the obstructive type of appendicitis probably does not occur in more than 25% of the cases, but it accounts for at least 90% of all the deaths from appendicitis. Therefore, instead of stressing the inflammatory type further, we will consider the more dangerous obstructive type of appendicitis. The important points of differential diagnosis and dangers, which we wish to emphasize to you, are the following:

1. These patients have a normal temperature early in their disease and this has caused more delay than any other one feature. The reason that the temperature is normal is because the inflammatory process develops late, in some cases, actually after perforation has taken place and peritonitis begun.
2. The obstruction in the appendix is caused by a fecolith and this accounts for the severe colic-like pain so often seen.
3. The leukocyte count is always elevated early in the disease and it rises for a time at the rate of about 1000 cells per hour. We should routinely take a blood count on all individuals complaining of acute abdominal pain, especially if the temperature is normal; usually, the white count is higher than it is in the early cases of the inflammatory type of appendicitis. This simple routine will often make the decision for or against immediate surgery and should bring most of these patients to operation before perforation takes place. Dangerous appendicitis rarely occurs in an individual whose differential white blood count is normal.

VII.

APPENDICITIS—SPREADING PERITONITIS

  1. Mortality highest second to sixth day.
  2. Delayed operation at critical period.
  3. Ochsner's regimen—morphia—fluids—rest.
  4. Drain abscess when localized.
  5. Remove appendix 6-8 weeks later.
  6. Children respond less well than adults to delayed operation.

In outline VII, we will continue with appendicitis as a cause of spreading peritonitis, since we believe there is still considerable argument concerning emergency versus delayed operation. We must take into consideration the fact that if we can operate on these patients shortly after the appendix has ruptured and before the peritonitis has spread very far, we had better do so; and if we delve into the history of the patient with great care, we will find that often we can spot the exact time the perforation took place. In other words, there was an acute exacerbation of excruciating pain followed for a short time by relief. If one can operate within four hours of this time, I believe it is best to do so and remove the appendix at the time. Then, Ochsnerize the patient strictly until the stage of physiological ileus has passed and normal peristalsis has been resumed bringing about spontaneous evacuation of gas or fecal matter from the rectum before the patient is fed. These patients will do better than if the operation is delayed. On the other hand, if the patient is seen with a spreading or full-blown peritonitis between his second and sixth day, I am convinced that he will have a better chance for recovery with delayed operation. He should be strictly Ochsnerized and his abscesses drained when they develop. His appendix should be removed still later. It is interesting to observe that if nature has successfully localized one burst of peritonitis with the formation of an abscess within the abdomen, which breaks spontaneously causing a secondary spread of peritonitis more or less general, that such a patient rarely recovers. This, I believe, is the explanation of why surgery causes a higher mortality when done at a time that nature is attempting to localize the peritonitis. In other words, the surgeon, by his manipulation to remove the appendix while the process of localization is going on, produces in the peritoneal cavity a second insult very like that observed when a secondary abscess breaks into the healing peritoneal cavity mentioned above.

The optimum time for removal of the appendix following the drainage of an appendix abscess is worth mentioning. In many of our own cases we have waited too long. Formerly, we gave these patients an appointment to come back into the hospital to have appendectomy after an interval of three months. So many of them came back with new abscesses about the appendix before the three months' interval had elapsed that now we often remove the appendix before the patient actually leaves the hospital. If he is sent home he is told to return at a specified time within six weeks of discharge. Many of them are never really well until the diseased organ is removed. We wish to mention that Ladd[2] of the Boston Children's Hospital is firmly convinced that children do not respond as well as adults do to the delayed method of treatment. This is in accord with our own experience.

Next, we will consider acute cholecystitis; the highlights of which are given in outline VIII.

ACUTE CHOLECYSTITIS

A. 1. History of previous attacks or indigestion.
   2. Pain and tenderness persist.
   3. Fever, leukocytosis, vomiting, dehydration.
   4. Single impacted stone—frequently.
   5. Gangrene due to interference with blood supply.
   6. Perforation occurs in about 2%.

B. 1. Early versus delayed operation.
   2. Inflammatory type quiets down.
   3. Gangrenous type perforates.
   4. Localized peritonitis—abscess.
   5. Operation at optimum time.
   6. Rarely emergency operation indicated.
   7. Within 48 hours if W. B. C. rises.
   8. After 2 weeks if patient improves.

Perhaps the most interesting phase of this subject at present is the controversial discussion concerning early versus delayed surgery. I wish to emphasize the fact that my personal views are with the delayed group. I do not believe that acute cholecystitis often should be considered an emergency surgical condition. Once in a while a patient is seen shortly after an acute gall bladder has perforated; then, I agree, as soon as shock can be combatted, that operation should be undertaken. In 98% of the cases, however, one has the opportunity to study the patient thoroughly and prepare him better to withstand the operation which eventually should be done. Our routine is not to operate on these people as an emergency in the middle of the night as we do in cases of acute appendicitis. We find that the gall bladder cases, coming into the hospital two to four days after the onset of an acute inflammatory process, will be dehydrated and very ill from vomiting and fever. It is wise to restore their fluid balance by intravenous solutions of five or ten per cent glucose in normal salt solution. The next morning they are carefully evaluated. If their temperature has fallen, their leukocytes are lower, their general condition improved, their nausea gone—we then wait another period of time before operation. If, at any time, there is a flare of temperature and white count, operation is proceeded with; otherwise, the patient is allowed to improve to a safe operative level. It is surprising what a small percentage of patients actually need to be operated upon during the acute stage. I think it is safe to say that nine-tenths of the cases that we see, will quiet down sufficiently to allow an operation of election. This usually should be done before the patient leaves the hospital, since it really takes several weeks for an acute gall bladder entirely to regain its chronic or more or less normal state. The average patient will have a rapid return to normal temperatue, a gradual but rapid loss of the acute inflammatory tenderness in the right upper quadrant, be able to take an adequate diet, and be in excellent condition for surgery in from seven to fourteen days from the onset of the symptoms. At this time, the gall bladder can be removed in a careful and meticulous manner, making it possible to peritonealize the raw surfaces produced and give the patient a safer and easier convalescence.

We must admit that there is a time following acute inflammation of the gall bladder that surgery seems to be harder; that is, a stage of inflammation does exist when bleeding is more profuse than it is either in the early acute phase or in the chronic state. This stage, we believe, is more apt to be found between the second and third week than between the first and second weeks following the onset of the acute attack. We should call attention to the fact that Estes[3] believes these patients may be just as safely operated upon early by the removal of only the anterior two-thirds of the gall bladder, leaving that portion attached to the liver bed in situ. He expects the gauge at the end of his wick, which is placed next to the mucous membrane of the remaining segment, to destroy the mucosa and thus prevent a persistent mucous sinus. One should not consider it bad judgment if, when dealing with an acute gall bladder, it seems safer to drain the structure only having in mind the operation of election for cholecystectomy at a later date. I am sure that this could be done quite often with excellent results. On the other hand in a large series of cases at the Massachusetts General Hospital, we found that those patients so ill that only cholecystostomy could be done, carried a mortality of 12%; while those allowing cholecystectomy, carried a mortality of less than 4%. This does not quite give a true picture of the situation, however, since we must admit that in the drainage operations many were done in the very aged and in the very poor-risk patients. On the whole, there is considerable argument in favor of getting rid of the gangrenous gall bladder if possible and this should very seriously be considered when dealing with such a structure.

IX. ACUTE PANCREATITIS

A. 1. Rapid onset—severe pain—vomiting.
   2. Extremely ill patient.
   3. Temperature and leukocytosis fluctuate.
   4. **Confused with** coronary thrombosis, pneumonia, and all acute abdominal lesions.
   5. Paracentesis for diagnosis.

B. 1. **Treatment**—conservative or radical.
   2. Jejunostomy for feeding if nausea persists.
   3. Supportive measures.
   4. Drainage of biliary system.
   5. Drainage of lesser peritoneal cavity.
   6. Mortality high—50%.

Outline IX takes up acute pancreatitis. Fortunately, this condition does not occur as frequently as many of the other diseases mentioned in this review. The diagnosis is very often difficult to make. One may start with the premise that patients with acute pancreatitis are the most ill of all the patients that he will see with acute abdominal conditions. One must make up his mind that he is not dealing with something else, and we speculate that fully fifty per cent of the operations done on patients with acute pancreatitis are under another preoperative diagnosis. If one strongly suspects acute pancreatitis and wishes to use the conservative rather than the radical type of treatment, one may with safety use a small hollow needle on the end of a syringe to penetrate the abdominal cavity exactly in the midline above or below the umbilicus. If one obtains the characteristic bloody fluid seen in acute hemorrhagic pancreatitis, one then can carry on in whichever manner he thinks best for his patient. If one would be content to bring a loop of jejunum to the abdominal wall, introduce a No. 16 French catheter into this structure so that the patient can be fed until the nausea, which is usually a prominent symptom, ceases—an otherwise conservative régimen may be carried out. If one feels that operation must be directed towards the biliary system, then drainage of that system is all that should be accomplished. If one wishes to drain in the region of the pancreas, one must remember that the pancreas itself has no capsule and that there is nothing to be gained by incising that structure. Drains may be established near it either through the gastrohepatic or the gastrocolic mesenteries or both. In this manner, one has accomplished drainage of the lesser peritoneal cavity which is all that we can logically hope to do. Whatever method of treatment one undertakes, the mortality is high. In my own opinion, patients get well in spite of, rather than on account of surgery; although there are certain definite faults that can be pointed out in any series of successful cases treated conservatively. In other words, it is obvious that the diagnosis may not have been correct in many of the cases reported to have made a spontaneous recovery. Certainly, we must recognize that there are several grades of pancreatitis from the mildest form of inflammation to a severe destructive process that causes complete necrosis of that organ.

X. PERFORATED ULCER

Gastric and Duodenal

A. Diagnosis—

1. Sudden, severe, knife-like pain.
2. Collapse, shock, latent phase of onset of pain.
3. Board-like abdomen, absent peristalsis.
4. Rapid pulse—high leukocytosis.
5. X-rays in upright position show gas under diaphragm.
6. May have had no previous indigestion.

B. Treatment—

1. Early operation imperative—mortality 50% after 12 hours,
2. Suction to remove fluid above liver and in pelvis.
3. Close perforation transversely in duodenum or by omental tab only.
4. P. G. E. contraindicated.
5. Drain rarely for 48 hours.

In outline X, we will consider acute perforations of the stomach and duodenum through peptic ulcer. Fortunately, the diagnosis of this fairly common surgical emergency is not difficult to make. The symptoms are characteristic, the physical signs are unmistakable, and in cases of doubt, one finds gas under the diaphragm in a large percentage of cases if the scout film is taken with the patient in an upright position. One must close the perforation as early as consistent with good surgery. This is one of the emergency operations that should even be done in the middle of the night or with an inadequate team. One should be content to close the perforation only, and this is best done by the method of Roscoe Graham[4]. An omental tab is placed over the perforation and held in place by three or four loosely placed sutures running above, through, and below the perforation. If one sutures the opening, one finds it difficult to do so without introducing the stitches at considerable distance from the indurated tissues around the ulcer. If sutures are placed through this inflamed area, they will almost surely cut out in a short period of time. Also, such a closure suture is prone to cause temporary obstruction in this region. An important point we wish to stress is the removal of the fluid from above the liver which, due to the motions of respiration, invariably accumulates. This is best done by gently displacing the liver slightly downward with the left hand while picking up the fluid from this region with a well-directed suction tip. It is also important in some instances to remove the fluid from the pelvis. This is best done by making a small stab wound in the suprapubic region, introducing the suction tip through this wound while holding the intestines out of the way with the left hand within the wound above. We should also emphasize the lack of drainage in these cases. If one feels compelled to drain, due to the fact that there is obviously still remaining within the abdominal cavity a great deal of contamination, then one should endeavor to place the drains in such a way that they do not come in contact with the small bowel. This is difficult to arrange so we must remove them as soon as they have served their purpose. Drains left in contact with the small bowel for more than forty-eight hours will cause more deaths from obstruction than they will save lives by the withdrawal of infection from the peritoneal cavity.

XI. ACUTE INTESTINAL OBSTRUCTION

A. Diagnosis

1. Early intermittent colicky pains.

2. Audible peristalsis—stethoscope.
3. Nausea and vomiting.
4. Previous abdominal surgery.
5. X-ray scout film of abdomen.
6. **Differentiate**—peritonitis, ileus, dilatation of stomach, distended bladder, uremia, and ureteral calculus.

B. CAUSES

1. Postoperative adhesions.
2. Strangulated hernia
3. Tumor—small bowel—colon.
4. Intussusception.
5. Volvulus.
6. Meckel's diverticulum.
7. Mesenteric thrombosis.
8. Gallstone.
9. Mesenteric defects.
10. Bands from old inflammation.

C. TREATMENT

1. Preoperative fluids.
2. Wangensteen suction.
3. Miller—Abbot tube

Operation.

4. Spinal or local anesthesia.
5. Early cases—correct fault.
6. Late cases—enterostomy or cecostomy only.

In outline XI, we will take into consideration acute intestinal obstruction. In the differential diagnosis, we wish to call attention again to the use of the stethoscope. It is incredible how little surgeons avail themselves of the use of this instrument on the abdomen. One can learn so much by listening to the abdomen, particularly in acute intestinal obstruction, that one should develop the habit of examining his patients regularly in this manner. By following closely the postoperative course of abdominal cases, one will learn much about physiological ileus. Thus, the more or less "silent abdomen" in a patient doing perfectly well during the first 24 to 48 hours becomes significant from the standpoint of feeding, bowel régimen, etc. Also, the type of peristalsis that occurs normally becomes a part of our general knowledge. When faced with the acute abdomen, we may use this simple method to aid us in differentiating acute intestinal obstruction from peritonitis, dilatation of the stomach, distended urinary bladder, uremia, ureteral calculus, etc. The x-ray scout film is of very great help in dealing with intestinal obstruction because it frequently gives the exact location of such an obstruction. This is particularly true in the large bowel where one can follow the gas pattern to a certain spot within the colon. It is also helpful in locating the lowest distended loop of small bowel into which one wishes to introduce a catheter for decompression. This leads to placing the incision under local anesthesia quite accurately and makes the first presenting loop of distended bowel likely to be the correct one.

In discussing the treatment of acute intestinal obstruction, it is well to speak of the excellent work of Wangensteen[5] and the use of the suction through a Levine tube, also the use of a long two-way Miller-Abbot[6] tube. These are fine adjuncts in our armamentarium but we must be very careful not to abuse the use of these methods. A patient on Wangensteen suction, for instance, being supported by intravenous therapy of salt solution, sugar, and blood, may appear so well that one may be entirely fooled as to his real state and thus delay so long before correcting a mechanical obstruction that the opportunity for saving the patient's life is lost. One should set a time limit on the use of such tubes so that if after three days of trial there is obviously no material passing the point of obstruction as evidenced by normal peristalsis, the passage of gas or fecal matter by rectum, etc., then operative interference should be undertaken. If one persists longer in the presence of mechanical obstruction, one often finds that the situation has got out of hand. In the early cases, one may correct the faults; in the late cases, one must be content to do a decompression operation only. If the bowel is viable in reduced herniae, bands, or torsions, our troubles are minimal. In case of doubt regarding viability, we must treat the bowel as dead. If the obstruction is low and the patient frail, one may exteriorize the obstructed lesion and close the fistula at a later date. If, however, the lesion is above the mid-portion of the small bowel, one must attempt a resection and primary anastomosis at the time of the operation since a high fistula will make it almost impossible to maintain life until the defect can be corrected. If the obstruction is in the left colon, one may do a tube cecostomy with great success (a method of doing this operation has been described by us and is in press[7].) If the obstruction is in the right colon, then an anastomosis between the ileum and transverse colon is a better procedure than ileostomy.

XII. CONCEALED HEMORRHAGE

A. Ectopic Pregnancy

- Amenorrhea 1-2 months.
- More discomfort than with normal pregnancy.
- Sudden pain, dizziness, faintness, nausea, collapse, shock.
- Slight vaginal bleeding.
- Positive A-Z test (50% only).
- Operation indicated—? autotransfusion.

B. Ruptured Ovarian Follicle

- Normal menstrual cycle.
- Acute onset, low abdominal pain.
- 2 weeks after last catamenia.
- Normal temperature — elevated white count.
- Tenderness low abdominal and pelvic.
- Operation in case of doubt.

In outline XII, we consider concealed hemorrhage—the two common causes being ectopic pregnancy and ruptured corpus hemorrhagicum. In ectopic pregnancy, one may consider carefully removing the blood from the abdominal cavity, straining it through gauze, citrating it, and giving it back to the patient into her vein. This autotransfusion is probably safe in ectopic pregnancy but should never be used if the blood has come from the spleen or liver, since blood from these organs does not remain unchanged within the peritoneal cavity.

A ruptured ovarian follicle accounts for one of the commonest mistaken diagnoses when operation is undertaken for acute appendicitis. Even in the young female with this situation strongly suspected, one cannot always be sufficiently sure of the diagnosis to avoid operation. A good rule to follow is, in case of doubt, explore the patient; since one case of acute appendicitis diagnosed as ruptured corpus hemorrhagicum and treated expectantly would offset the danger of many explorations for ruptured corpus hemorrhagicum.

XIII. TWISTED OVARIAN CYST

- Sudden onset usually at stool
- Severe pain difficult to relieve
- Normal temperature
- Rising white count
- Slight flowing—menstrual abnormalities
- Tenderness and mass—bimanually
- Sedimentation rate—normal

Outline XIII needs very little additional explanation. This summary applies not only to the torsion of the ovary but to the fallopian tube as well. If the diagnosis can be made early enough, frequently the structure may be saved; usually, however, changes have taken place by the time the diagnosis is made, which necessitates the removal of the ovary and frequently the tube as well.

XIV. MESENTERIC THROMBOSIS

- Arteriosclerotic patient
- Sudden severe onset
- Nausea, vomiting, bloody diarrhea
- Extremely high leukocytosis
- Patient becomes rapidly very ill
- Silent abdomen—distention
- High level—resect anastamose
- Low level—exterioration of involved segment.

In outline XIV, we take into consideration one of the more rare causes for emergency abdominal surgery but one which we must bear in mind. It is worth while calling attention to the fact that there are definitely two types of mesenteric occlusion—one involves the arterial tree which is far more fulminating, more acute, and brings the patient into a state of collapse with alarming rapidity. Even so, operation is apt to be undertaken after necrosis of the bowel takes place. In the type that has to do with venous thrombosis, the onset is more gradual, the diagnosis still more difficult to make but, fortunately for the patient, the necrosis takes place so slowly that general peritonitis is apt to be delayed and resection may be carried out with greater frequency of success. Also, in the venous thrombosis of the mesentery, the leukocyte count is not apt to be as high as it is in the arterial obstruction. Again, it is worth while to mention that if the involved segment of bowel is high, one should be sure to restore continuity at the first operation regardless of the seriousness of the procedure, since these patients will die of starvation if the fluids from the upper gastro-intestinal tract are allowed to drain to the outside over any period of time.

In conclusion, it might be worth considering very briefly the preoperative preparation of patients with acute abdominal emergencies and the immediate postoperative treatment.

XV. PREOPERATIVE TREATMENT

Fluids: water by mouth—sparingly
normal salt solution by rectum
normal salt solution by clysis

glucose 5% or 10% in salt solution or distilled water intravenously.

ENEMATA: only in intestinal obstruction.

MORPHINE: after diagnosis is made.

In outline XV, we give some of the high points in preoperative preparation. Very rarely is it safe in acute abdominal emergencies to give the patient much fluid by mouth. We should combat dehydration by the administration of fluids under the skin and into the veins. One needs to take into consideration pretty carefully the amount of fluid needed. The duration of the illness, its character, the age and condition of the patient, are guides in this direction. One should give an adequate amount but care must be used not to produce cardiac dilatation or pulmonary oedema. Transfusions may be used preoperatively, particularly if there is evidence of long starvation with obviously lowered serum protein. One should be extremely careful about using enemata in cases with acute abdominal difficulties. It may be tried in intestinal obstruction, particularly if the obstruction is in the large bowel, but should be given with great caution and not repeated. One enema rarely does harm in suspected appendicitis. One might try a barium enema in an intussusception in a child. Usually, however, this is not a satisfactory method of reducing the intussusception and may interfere a great deal with the management of the case. One should be very cautious about giving barium even by enema in the acute abdomen and never, except under the strictest observation, under the fluoroscope. It is disastrous to fill the colon beyond the obstruction in the large bowel with barium and is entirely unnecessary. Even more important is the danger of giving large quantities of barium by mouth in order to make a diagnosis in these lesions. Although it is wise to use morphine only after one has arrived at a diagnosis or at least a procedure to be carried out for the next two to four hours, one should not send patients over long journeys in the ambulance with acute abdominal lesions without the aid of this drug.

XVI. POSTOPERATIVE TREATMENT

Fluids—intravenously, clysis, rectum
Morphine—freely
Position in bed—avoid venous stasis
Ochsner's régimen
No catharsis
Pitressin regularly or not at all
No enemata until after third day
Levine tube
Non-gas producing foods

In outline XVI, we take up the postoperative treatment. Here we must usually count on protecting the patients against peritoneal irritation following operation. Routinely, these people should have limited fluids by mouth or none at all; if any, only water until the period of physiological ileus has passed. This usually takes two or three days, in the average patient, and may take five. One can determine when this period has passed by the use of the stethoscope and by the spontaneous passing of gas and fecal matter by the patient; after this and only after this comes about, should food be given. One should be careful not to give food that produces large quantities of gas. Fine[8] has very strikingly brought out this point and made a great contribution to the postoperative treatment of patients from a standpoint of comfort and smooth convalescence. Orange juice and carbohydrates, usually considered to be the first thing a patient would have postoperatively, are great gas producers. It is so easy to maintain the fluid balance and even nutrition with glucose and salt solution intravenously that there seems little excuse for the early administration of food. This is also true of early enemas after operation. There is no point in stirring up the intestinal tract by high enemas until after the period of physiological ileus has passed. When given prior to this time they only serve to increase the patient's discomfort. One may use oxygen inhalation in high concentration if the patient becomes distended and use a heated cradle over the abdomen to great advantage. Pitressin should not be used for abdominal distention. If one wishes to use pitressin at all, it should be started on the operating table and given regularly until the need for it has passed. One must remember that pitressin acts on the large bowel only, and if the large bowel becomes distended and pitressin then administered, rupture of the bowel may take place. Morphine keeps the small bowel contracted and should be used by the clock until the peristalsis has resumed its normal rate and the patient is passing gas freely by rectum. One cannot over-emphasize the use of the Levine tube; this eliminates all nausea and vomiting and makes the patient much more comfortable than if he must cast off his accumulated stomach and salivary secretions by emesis.

One must take into consideration the position in bed. In every case where possible, one should keep the veins of the lower extremities and pelvis emptied by gravity. This cannot be done where there is peritoneal infection which one wishes to have localize in the pelvis rather than above the liver. If one bears the possibility in mind, however, venous stasis, which is so productive of thrombosis and embolism from the lower extremity, can often be avoided.

It is incredible how comfortable the average postoperative abdominal patient can be kept provided one adheres strictly to a modified Ochsner's régime, using intravenous fluids rather than proctoclysis, and using morphine by the clock for not only its action on the small intestine but also to produce a state of euphoria so that the patient does not mind the intravenous needles or the Levine tube. If these principles are thoroughly understood and carried out, postoperative convalescence leaves no very unpleasant recollections for the patient, and causes less worry to the surgeon and his staff.

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Modern Trends in the Management of Pneumonia*

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FEW DISEASES in the history of medicine have ever received as intensive study as have the pneumonias in the last few years. The developments in diagnosis and treatment have been revolutionary, and we feel that the end is not yet in sight. For generations we have struggled along without making any appreciable headway, at least in the improvement of our mortality statistics[1]. Recent reports are so encouraging that they "seem too good to be true." I shall attempt here to cover only a few of the recent interesting phases and developments in this complicated problem.

As specific therapy has been developed, increasing emphasis is being laid upon an early diagnosis, as the outcome depends in a large measure upon the early application of these remedies. "Every case of acute pulmonary involvement demands scrutiny from anatomic, etiologic and prognostic viewpoints[2]." "The most valuable early diagnostic sign of pneumonia is the suspicion that it might be present[2]." Pneumonia may be suspected when there is a typical onset, as a chill, rapidly rising fever, rapid pulse, rapid and shallow respiration, cough, rusty colored sputum, pain in the chest, etc. We must remember, however, that a considerable portion of the cases are not so classical in their onset. The symptoms may be atypical, the signs may be maskıl or absent. This is especially true when pneumonia develops during the course of a severe cold or epidemic influenza. An early pleurisy may mask an underlying pneumonia or incidentally a simple pleurisy may often be mistaken for pneumonia. The area of involvement may be remote from the surface available for study. "Signs of consolidation may not appear for four or five days.[2]"

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We are learning more and more to appreciate the value of x-ray study and in many institutions an "A-P" of the chest is ordered in the admission room for all suspicious cases. The immensely increased number of medical cases that are being hospitalized are giving us an increasing respect for the total white and differential blood counts. In many of the best institutions blood cultures are being run as a routine in pneumonia cases. They confirm the diagnosis as to type, for this purpose being much more accurate than cultures from the sputum. They give also an excellent clew as to prognosis, the mortality in the cases showing bacteriemia two or three times as high as cases that do not. They give us a clew as to the necessity for intensive attention and, in cases of serum, as to the size of the dose[3].

Where sputum is not available or until it is available, typing is being done from swabs from the posterior pharynx. Pneumonia organisms are quite commonly present there even in health, but should the study show types I or II it is accepted by many as establishing the type etiology of the invading organism as these two are so rarely present in the normal individual. Especially when type I is found specific therapy is initiated.

Emphasis is being laid upon the general study of the patient, particularly to determine any factors that may influence prognosis or treatment. Here, as elsewhere, increasing reliance is being placed upon a carefully made history.

In treatment we are availing ourselves of the increased knowledge of the body chemistry and some of the developments are worthy of unlimited emphasis. The necessity for maintaining the salt intake is being stressed[4]. The usual requirements during health are naturally increased due to the large loss through sweating and sometimes through emesis.

The recognition of the necessity for sufficient fluid intake is not new, but for the better understanding of the large loss of water in the expired air in cases of this type, this phase of treatment is worthy of special attention. "Dehydration is not tolerated by a pneumonia patient. He needs much fluid because of the rapidity with which he loses fluid[5]." "Dehydration is important in pneumonia since it may be the trigger mechanism of inducing peripheral circulatory collapse[5]." I do not like to see the instructions "force fluids." The physician is better qualified than the nurse to estimate the needs of the patient. "Force fluids" may mean to the nurse two pints or a dozen. 2000 cc. to 3000 cc. probably meet the average requirements.

In nourishing the pneumonia patient the lowered digestive ability and the tendency to abdominal distention should be kept in mind. The high carbohydrate, low total diet seems to be the one of choice. Glucose in water flavored with fruit juice is being employed with increasing frequency. An excess of fruit juices is to be avoided.

Renal elimination often is not given the detailed attention it requires. It has been estimated that 800 cc. of urine is the minimum that will safely avoid the accumulation in the blood of nitrogenous waste.[5]

Purgation is being consistently advised against by some of our best clinicians.[6].

As the overwhelming majority of pneumonia patients die through circulatory failure (and not respiratory failure) the conservation of the circulatory apparatus is recognized as essential. Much may be accomplished here by comfort and quiet.

The patient should not be disturbed even for frequent examinations, once the diagnosis has been established. A thorough study once a day usually meets the requirements. Areas that are available without turning the patient may be examined at any time.

Isolation of the patient does more than contribute to comfort. Cole[4] states that the most effective prophylactic measure to avoid spreading the disease is the isolation of these patients, particularly in types I and II.

Oxygen is being used with increasing frequency as better facilities for its employment develop. The modern oxygen tent with its excellent equipment for securing the proper atmosphere has revolutionized its use by the profession. It is evident that the nasal catheter is again coming into popularity. When the administration of oxygen has been initiated it should be employed continuously until convalescence has been established. There is still much difference of opinion as to when the administration of oxygen should begin. Some recommend that it be employed from the time that the diagnosis is made[5,7]. Its use is advocated by others with the first evidence of air hunger[8], with the first appearance of cyanosis[9], or with the development of such suggestive symptoms as increased pulse and respiratory rates and nervous irritability[10]. My experience has been that oxygen certainly has a field of usefulness in pneumonia, but I prefer to wait until there are indications, if any, for its employment. Oxygen subcutaneously has been used by some clinicians[11] for the past twenty-seven years but is apparently losing what popularity it has occasionally commanded.

Artificial pneumothorax, first employed twenty years ago[12], still has a few advocates, though they are conservative in their recommendations. The consensus of opinion seems to be against it[4, 13].

Diathermy has its advocates[14] but there are many who question its value[4]. The same applies to x-ray therapy[15,16].

Up until the recent developments in chemotherapy, serums were uninterruptedly increasing in popular favor. The value of type I has been established beyond dispute[18,17]. Types II, V, VII, VIII and XIV are being employed routinely by many clinicians[19]. The others are being extensively investigated and statistics so far are most encouraging.

Rabbit serum is a recent development[20]. Its comparative efficiency is still unestablished but it may prove useful especially for those individuals who are sensitive to horse serum.

With regard to serum certain facts have been definitely established. (1) The serum must be type specific—that is type I serum for type I pneumonia, etc. Beyond this it is not being used by the best element in medicine. (2) The serum must be used early to secure the best results. (3) It must be given in sufficient dosage and the intravenous route used exclusively where such administration is possible. (4) The dosage must be influenced by (a) the type of organism present, (b) the presence or absence of bacteriemia, (c) the duration of the disease before the commencement of serum therapy, (d) the size and general condition of the patient. (5) The concentrated sera are used exclusively. (6) Some discretion must be shown in the selection of patients. The British Medical Research Council[21] advocated serum only in the age group of from 20 to 40 years. Finland[3] recommends its use between the ages of 12 and 60. (7) We must recognize that the cost of full serum therapy is beyond the reach of many patients. I analyzed the amount of serum and its cost for some groups of cases recently reported and found that the serum would have averaged nearly $300.00 per patient.

Sulfanilamide has now been employed for several years, long enough in fact for its therapeutic status to have been fairly well established, yet this goal apparently has not been reached. "Our experience leads us to believe that sulfanilamide is not highly effective in the treatment of pneumococcic lobar pneumonia[22]." "The use of sulfanilamide in the treatment of pneumonia has not been sufficiently encouraging to warrant recommendation of this product to replace specific antiserum. While sulfanilamide has value, the results are not striking[23]." Many excellent clinicians are employing this agent in a large way and report most favorably upon it. Its action is probably bacteriostatic[22], but other action has been suggested by competent observers. We are coming to understand better the toxicity of this compound. Among the most common unfavorable effects are cyanosis, fever, dermatitis, acidosis, mild hemolytic anemia (common), acute hemolytic anemia, agranulocytic angina and jaundice. Prominent also are effects on the nervous system, as expressed by anorexia, nausea, vomiting, headache and vertigo[22].

In 522 cases treated with sulfanilamide at the Johns Hopkins Hospital, Wood[24] found 21 cases of acute anemia (principally in children) and 1 case of agranulocystosis. The cyanosis seems to be due to methemoglobin instead of sulphemoglobinemia as was first supposed[22]. This condition may be largely controlled by the employment of methylene blue[25]. The administration of sulfanilamide with sodium bicarbonate and the avoidance of sulfates and alcoholics lessen toxic developments. Apparently one of the earlier danger signals is fever, and the presence of such a symptom, if it is apparently related to the drug will call for its discontinuance[22]. Under all circumstances when a patient is receiving full dosage of sulfanilamide, he should be under careful supervision, preferably in a hospital, and should be followed closely by laboratory studies.

In the treatment of pneumonia the tendency is for the employment of large doses. Long, Bliss and Finestone[22] recommend in a patient of average size (70 kg.) 80 grains (5 gm.) as the initial dose, then 20 grains (1.2 gm.) every four hours day and night. With this they recommend the daily administration of 60 grains (4 gm.) of sodium bicarbonate. This plan of dosage is the one most largely followed today. One large series of cases has been reported in which the initial dose was the 120 grains given intravenously in 1000 cc. of normal saline. (Reddick). The total mortality was 19.1%. In those with proved pneumococcal infection the death rate was 6.5%. For those beginning the treatment in the first three days of the disease, it was 5.1%.

Sulfapyridine is the newest of our therapeutic agents and while it is too early to evaluate definitely its efficiency, results so far have been little short of startling. The apparent success of sulfanilamide led to the search for a more satisfactory agent for pneumonia and of the more than 64 compounds[27], developed, sulfapyridine has apparently been established as having major efficiency. The original report of Whitby[28] was followed promptly by extensive studies that have been most encouraging.

Sulfapyridine is a white crystalline, almost tasteless powder, soluble in about 1000 parts of water at normal temperature[27]. When given by mouth it may be detected in the blood in about thirty minutes[28] and has largely disappeared in about twenty-four hours[27]. There seems to be considerable variation in the amount absorbed in the body and we have much to learn as to the required concentration in the blood for efficient action. In one study where full dosage was employed, the amount in the blood varied from 1 to 18 mgm. per 100 cc. and it is particularly interesting to note that, as a whole, the cases showing the low concentration progressed as favorably as those showing the highest[29]. "The drug is irregularly absorbed and slowly excreted[22]."

Its toxicity has been carefully studied by competent observers and found largely the same as sulfanilamide. There may be nausea, vomiting, headache, fever, rashes, tingling of the extremities[22]. The emesis is not of central origin[28]. Cyanosis is quite common. Occasional depression, syncope and mental confusion have been observed. No instances of acidosis have been reported[22]. Agranulocytosis and acute hemolytic anemia have been noted. "The toxic effects are fewer and less marked than for sulfanilamide[27]." Barnett, et al[27] report finding no material fall in the red blood cell count that seemed to be due to the drug. In a large series they encountered no toxic symptoms causing them to discontinue the plan of therapy.

Long, et al[22], in their excellent study report the toxic reactions as being as frequent and as severe as with sulfanilamide. For severe emesis venoclysis of dextrose in normal saline has been recommended[29]. Cyanosis may be largely controlled with methylene blue[25]. It seems that complications, such as empyema have apparently been reduced. Flippen and his associates[29] in 100 consecutive cases found no empyema and three instances of phlebitis.

The dosage employed at present is fairly uniform. It is 2 gm. (30 grains) as the initial dose, then 1 gm. every four hours[29, 30]. A total of 25 gm. is not usually exceeded[29]. When treatment is begun late in the disease a smaller total dosage is indicated[29].

In my service at the Charity Hospital our usual plan is to administer the drug every four hours, the first two doses being 2 gm. (30 grains), then 1 gm. as previously mentioned.

The tablets may be swallowed but a better plan probably is to give the powder in water or in fruit juices[27].

Much additional experience with this agent will be necessary before final conclusions as to its efficiency can be drawn. "It has seemed to be beneficial in lobar pneumonia, however, we feel that until there is evidence that sulfapyridine is as valuable as specific antipneumococcus serum in the treatment of lobar pneumonia, the use of potent type I to VIII and type XIV serum should not be abandoned[31]." "A rational scheme of therapy with this drug has not yet been presented[31]." "The use of sera with sulfapyridine is questionable[29]."

It has been recommended that if improvement under sulfapyridine therapy does not take place in twenty-four hours that it be discontinued and serum employed should the case be of a type for which there is a specific serum of proved value[22]. The most striking effect so far reported has been the rapid clinical improvement. This usually develops within twenty-four hours and is characterized particularly by a fall in temperature[29].

Some interesting statistics are being accumulated. Flippen and his associates[29] report four deaths in 100 consecutive cases. It is of some interest that 3 of these deaths were in type III pneumonia. Evans, et al[30], report a mortality of 8 per cent in 100 cases treated with this drug, as compared with a mortality of 27 in 100 cases used as controls.

Pneumonia is a disease of such tremendous importance that a new agent of such promise is naturally inciting intensive study and soon we should be in possession of sufficient data to judge intelligently of its therapeutic status.

The overwhelming majority of the medical literature covering pneumonia, and especially that coming from the best sources, is devoted almost exclusively to specific therapy to the almost total neglect of what some of us believe to be a major therapeutic approach, that is, the general care of the patient. It may be possible that one influence in securing excellent results in the groups of cases being reported is that in using a specific agent physicians have confined themselves largely to that agent and have not overtreated the patient. I saw recently a pneumonia patient who had been ill for less than three days. He had received 21 therapeutic agents including morphine, atropine, digitalis, adrenalin, luminal, bromide and two biologicals of unproved efficiency. I have seen two cases this winter who had standing orders for 1 grain of codeine and 10 grains of aspirin every four hours.

I believe that drugs are used too much in the treatment of this disease. Morphine is enthusiastically used by many practitioners. It has many disadvantages, including direct depression of the respiratory center and a marked tendency to interfere with intestinal elimination. Some of the hypnotics, especially the barbiturates, are being stressed as etiological factors in the development of pneumonia[32]. The reason for this is not entirely understood, but one theory is that, if given in large dosage, they produce a condition closely akin to shock, which possibly may favor the development of pneumonia and certainly would seem to be unfavorable to satisfactory progress.

The indiscriminate use of nasal drops having a basis of liquid petrolatum has been established as an etiological factor in lipoid pneumonia and may by the same token interfere with a favorable outcome[33].

I believe that as a whole our tendency is to overtreat these patients. We have learned our lessons in tuberculosis and typhoid fever. May not some of the same principals apply in the management of the pneumonias?

SUMMARY

The following developments are presented: some current suggestions in diagnosis, the care of the patient as to salt and fluid intake, nutrition, elimination, etc.; the use of oxygen, etc.; drug therapy; serum therapy; sulfanilamide; sulfapyridine.

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Pneumonia*

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THE THREE great "captains of the men of death" are, perhaps, heart conditions, cancer and pneumonia. Of the first two we know all too little. Of pneumonia we, at long last, are learning much. We know that more than one hundred thousand human lives are destroyed annually by this great killer disease and that the death rate from it is, or has been, around 40%. And although there are those who will dispute this last statement, many many, cases are diagnosed and treated as pneumonia cases that are not true pneumonias. Since we, individually, refuse to admit that any case not directly due to pneumococcal infection is a true pneumonia, we hold that error in diagnosis accounts for the lower death rate claimed by some. We further hold that, since correct diagnosis depends upon the presence of pneumococci, no man, we care not who he is nor how much clinical experience he may have had, can positively diagnose pneumonia without the aid of his microscope. We also hold that, even though the pneumococcus has been visualized and cultured, the diagnosis is not complete until the infecting organism has been typed.

Prior to 1910-11, no spicific or effective treatment for pneumonia had been devised or discovered. Nothing beyond good nursing care and supportive treatment was of any value. We know that, following the original typing, the organisms were classified as types I, II, III and IV. We have long known that pneumonia is divided and described as lobar and bronchopneumonia. We shall not discuss the difference between these two, since such a discussion would be out of line and unnecessary. We will say, however, that we know that most of the deaths from lobar pneumonia are due to infection from types I and II. We know, further, that while practically all type III cases have, until recently, proved fatal and while less than ten per cent of the cases are due to type III infection, the average death rate is greatly increased because of the high fatality in this type of infection. On the other hand we know that most type IV cases, under proper nursing care recover, hence it is that types I and II cases have held the teaching that in all sickness due to a specific treatment. Nearly half a century ago the great Russian, Metchnikoff, promulgated the teaching that in all sickness due to a specific infecting organism, if recovery should occur, such recovery was due to the phagocytic action of certain leukocytes. We subscribe to the correctness of this teaching. Hence, it was and is that all medication with the view of destroying the pneumococci was futile. Hence it was that we were driven to the conclusion that recovery from pneumonia was dependent upon "vis medicatrix naturae" or the power of natural resistance inherent to a differing degree in each individual patient. That different individuals do possess this power in differing degrees is evident when we see that some individuals fall sick of pneumonia when exposed or brought into close contact with those sick of the disease while others do not. Incidentally, we will say that when "takes" result from contact it will be found that the same type of organism will be found to exist in both cases. Of course, it is possible that a dual type infection may be found in one or both patients. This brings us to wonder what this natural resistance may be. We believe it is the power that every individual has, in some degree at least, to manufacture antibodies or antipneumococcal serum for himself. So it was that first the horse and then the rabbit were set to work manufacturing this antiserum for us. Soon it became evident that for this serum to be effective it must be of corresponding type with that under treatment. This fact is too well known to require enlargement along this line in the discussion. We soon discovered in typing that when the proper serum was used that there was a spectacular change in the capsule enveloping the coccus. This fact led to the conclusion that when the capsule was weakened and dissolved that the phagocytic blood cells immediately enveloped and destroyed the cocci. This phenomenon leads us to liken the situation to warfare between armored and unarmored combatants. A small number of armored soldiers might easily overcome a superior force that was not equipped with defensive armor. But given the ability to dissolve this armor by some chemical spray, the odds of battle would immediately turn. So it was found that when specific serum is given in proper dosage and sufficiently early, recovery is sure and swift. Again it is probable that the capsule in which the coccus is encased is not only a means of defense for the infecting organism but it probably throws off toxic material that destroys the life of the host. It is also probable that the serum inhibits the multiplication of the cocci as well as weakens the capsule.

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In all events, it has been definitely shown that the death rate from penumonia has been cut below fifty per cent of that where the serum is not used. Thus, it is possible to save, at least, fifty thousand human lives annually in the United States if specific antipneumonic serum should be used routinely in the treatment of this very common and highly fatal malady. There are several reasons why this plan has not been universally adopted, but none of these reasons is valid. First, we would mention the fact that our profession seems to be tradition bound. We are slow to give up opinions and practices. We are lethargy bound as well. We sleep too much and think too little. Because people in great numbers have always died from pneumonia, we have accepted this as natural and commonplace. In proof of this, after twenty-five years have gone by since it was known to be possible to prevent this wholesale slaughter of the innocents, less than five per cent of pneumonia cases are given specific treatment. Another reason for nonuse of serum is that so many doctors seem to think that it is out of their province to attempt to use it. They say we cannot type our specimens. This need not be true; for any man who is competent to practice medicine can do this or can equip himself for doing so in a very short time and at small expense. Besides there are but few towns or communities where some one may not be found who is capable and willing to do this for us. Again it has been claimed that the expense is prohibitive. The treatment costs less than a funeral. Besides this, if serum should be used routinely the country over, the cost would immediately drop until it would be in reach of all, just as was the case with diphtheria antitoxin. Again a few states have arranged for free distribution of the serum. Of course, there are certain contraindications for the use of serum. These are well known or should be. The methods of use are generally understood. There are certain untoward symptoms when used—these are due to individual idiosyncrasies. There should be no uncertainty as to their recognition and how to meet them.

About the time that certain men began to advocate serum treatment and to accept the teaching of Metchnikoff, Wright and others, Paul Erlich emphasized his idea of chemotherapy in dealing with specific diseases as illustrated by the use of arsphenamine in syphilis. As wonderful as were the results, may it not be that we were set back decades in our approach to the pneumonia situation thereby? May the brilliant results from the use of 606 not have blinded us as to the possibilities and responsibilities in the handling of the millions of pneumonia patients that have sickened and died since them?

Truly, wonders never cease. Almost by accident, it seems, a new and great light may be breaking in upon us. Several years ago a new chemical compound was listed and apparently laid aside as useles in the field of medicine. Only about two years ago we were told that this chemical compound had proved efficacious in dealing with certain types of streptococci. Soon we were told that the elusive and deadly gonococci could be made to yield when treated with this same drug. Of course, there was a rush to obtain and use it; for indeed fools rush in where angels (wise men) fear to tread. There were many encouraging reports and many warnings against indiscriminate use of the new drug, for such it had now come to be called. This was very much as it should have been. We took occasion to utter warnings, both from the platform and on the printed page. However, we began its cautious use and carried an open mind into the new field. We did not meet with the spectacular results reported by some of our co-workers. However, we kept our face turned forward and upward. About one year ago in one of my own district meetings, one of our progressive rural members, just back from a stay in Boston, reported startling results in treatment of pneumonia with sulfanilamide. We accepted, as true his reports and at once reasoned that, if true, it must be that the drug when given to a certain concentration in the blood must act upon the capsule of the organism just as does the serum that has been developed in the bloodstream of the horse, rabbit or sick man. Since that day reports have come so constantly that there is neither room nor reason to doubt that sulfanilamide is curing many cases of pneumonia. So much is being written and printed on this subject that one cannot keep up with it at all. In fact, we see no reason why one should be expected to do so. Suffice it to say that we have found a remedy that may be administered orally and a life may be saved. This is bound to be true unless "all men are liars." Still more recently reports reach us from London that a newer compound belonging to the sulfanilamide group has been tried that seems to be far more efficient than sulfanilamide. It appears that a drug company, May and Baker, gave orders to their chemists to tear sulfanilamide apart much as a boy might tear a house that had been constructed of toy building blocks apart, and reconstruct another building differing from the first, of the same blocks. This they did time after time. Each succeeding compound was subjected to animal experimentation and each experiment proved to be a failure until 692 new compounds had been made and cast aside as worthless for the purpose wanted. But lo! compound 693 worked. And now we are told that M. and B. 693 has been found to be far more effective in treating pneumonia than is sulfanilamide.

This drug will most likely be placed on the market under the name of sulfapyridine. Of course, the use of both sulfanilamide and the newer drug is attended with some risks and should be carefully watched. It is hardly needful that we should mention the undesirable effects and symptoms resulting from their use (in some cases). These are too well known to make it needful for us to do so. But we will say that if many of the claims that are being made for these drugs are proved, and no new dangers are found to exist, then, indeed, the most wonderful medical discovery of all the ages would seem to have been made. Are these claims too good to be true? Let us hope and pray.

SUMMARY

Pneumonia is one of the three great killer diseases. One hundred thousand lives are destroyed annually in the United States by pneumonia. The death rate from pneumonia is not less than forty per cent. Prior to 1910-13 no specific treatment for pneumonia had been devised. About that time it was shown that there are four types of pneumococci (old classification). Most deaths result from types I and II infection. Less than ten per cent of lobar pneumonia cases are due to type III infection, most of whom die. Thirty per cent of cases (or more) are due to type IV infection, most of whom recover. No case can be positively and scientifically diagnosed without aid of the microscope and no case can be scientifically treated with serum unless the infecting organism has been specifically typed. This procedure can be carried out by any competent physician, after a little study and some practice. Error in diagnosis accounts for the low death rate reported by some men. Death rate can be cut in half by proper use of serum. Serum weakens the capsule and prepares the organism for digestion by the phagocytic blood cells. Proper use of sulfanilamide is probably more effective than specific serum. A new arrangement of molecules has produced a new compound belonging to the sulfanilamide group that probably will prove more effective than sulfanilamide. The death rate may be expected to fall from a high of forty per cent to a low of probably eight or ten per cent. If, as claimed by workers at Rockefeller Foundation, a prophylactic vaccine is about to be available, then indeed we may hope that pneumonia is about to be conquered if not eliminated.

Let our program be: devotion to duty, hope, study, work and progress.

DISCUSSION

Dr. H. F. Garrison (Jackson): The subject of pneumonia has always been a very interesting subject to me, and I know it has been interesting to you. Too many of us have had the unpleasant duty of sitting by the bedside and seeing our patient die with pneumonia. The mortality rate, although not as high in this country as it is in northern and eastern states, has been entirely too high in the Southland.

The treatment of pneumonia in children has interested me most, yet not without a great deal of anxiety. When one sits by the bedside and sees a little baby, or a little child, gradually fading out with a bad case of pneumonia, it is a pathetic sight. I, like Dr. Bethea and Dr. Bryan, have seen many of these little fellows go out under the treatment of serum and other methods that we have had. There is no doubt but that we have done a great deal of good with these treatments. Serum in some cases works miracles. The giving of small blood transfusions and intravenous injections have all worked well—even where we are using the newer remedies they still work well. Our new remedy, sulfapyridine, is nothing short of marvelous and in many instances spectacular, as I know from my own experience with a limited number of cases. In the greatest number of cases treated with sulfapyridine we know of, 550 cases in England, the same was true. Dr. Bethea mentioned in their particular group that in something like half of them, their mortality rate was 77%, whereas in the treated group the mortality was cut to less than half. In the work that Graham Mitchell and his co-workers did in Cincinnati, about 70 cases showed the same results. In the group of 71 cases reported in our last Journal of American Pediatrics, approximately half of them were from the Sidenham Hospital where they were treated following measles and, of course, were a mixed group. The other half were primary pneumonia, but practically the same results were obtained from both groups. The temperature chart revealed that after giving the usual dose of sulfapyridine, for 24 to 48 hours the temperature was normal.

My short experience with sulfapyridine has proved that in many instances it has worked marvelously. I have not given it in as large doses as some of the other pediatricians, although I know their experience and their ability to judge the type of cases and also the dosage in particular cases has perhaps been better than mine; yet my experience with the treatment of pneumonia in children has convinced me that the smaller doses have done just as well as the larger ones. Now it hasn't been my experience that we get the toxicity in the use of sulfapyridine that we do with sulfanilamide, and I think you gentlemen need have little fear about the toxicity of the drug, although of course in administering any drug, especially a new one, it is essential that you watch your patient carefully. After all, the clinical symptoms will guide you. When the temperature goes to normal, the drug should either be decreased or discontinued and the results watched. If it goes up again, give sulfapyridine until it subsides.

Gentlemen, I think this drug is destined to revolutionize the treatment of pneumonia, not only in children but in adults as well. So far as my short experience is concerned, I certainly heartily commend it because of its marvelous results. I feel that, so far as the treatment of pneumonia is concerned, we are almost out of the woods.

Dr. A. L. Gray (Jackson): I appreciate the invitation to discuss this subject, but I know very little about it except what I have heard from the other fellows, so I think it would be more in order to give what time I might use to those of you who have questions to ask, those who really know something about the subject. I thank you.

Dr. Hightower (Hattiesburg): I just want to relate a little case I had day before yesterday. This is such a spectacular case that I feel like it would be interesting to the membership of this association. A little boy, 6 years old, Saturday night was taken with a hard chill and a severe pain in the left chest, temperature 104°F. He was brought to the hospital Sunday morning and they called me about 9 o'clock. They lived out in the country, and when I saw him he was spitting up bloody sputum—his left base was distinctly beginning to consolidate, rales distinct, right lung perfectly clear, and temperature then about 104. I put him on one tablet of sulfapyridine every four hours. On Monday morning his temperature was down to 99; today he went home apparently perfectly well. I thought this would be such a spectacular case that I wanted to relate the experience. There was no other treatment given except this sulfapyridine.

Dr. G. S. Bryan (closing): I do not think I have anything to add to the discussion. I believe that some of the men present think that I made a statement that was radical when I said no man, I care not who he is, what clinical experience he may have had, can positively diagnose pneumonia without his microscope. You can be sure you have your consolidation, you can have your bloody sputum, you can have all of the evidences and signs of pneumonia, but there is no way I contend by which you can be sure that it is pneumococcic invasion until you have demonstrated the pneumococcus. You can bet your money that it is pneumonia and win nine times out of ten, but to be absolutely sure there is no way that you can be sure without visualizing or demonstrating the pneumococci with the microscope. Many of these cases that get well in such a spectacular fashion might possibly get well without any treatment. I have seen cases in my own experience that I thought were pneumonia before we had specific treatments and they would get well. It has been suggested that Holt and others said these were border types of pneumonia. Well, perhaps, but I still contend—I still stand where I stood a while ago—that unless you show me the pneumococci I won't admit that you are positively diagnosing a case of pneumonia, and I just wanted to recapitulate that much and leave the thought with you. Disagree with me if you like, but think it over.

Dr. Oscar W. Bethea (closing): I just cannot express my appreciation for being among you.

Facial Infections*

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Infections about the face that may spread and become serious conditions usually follow such lesions as pimples, occasionally blackheads, sand or grit scratches, or the pulling of hairs, especially about the nose, furunculosis, etc.

Such lesions are of such minor significance that they are treated by some friend, a member of the family, or even the barber, until some alarming condition arises, after which they become real major problems and, frequently, result in the loss of life. The medical profession has been rather earnest in its warning to people not to pick pimples or pull hairs about the floor of the nose and the upper lip, and, apparently, the warning has been heeded fairly well, but there seems to be no fear with reference to other areas that might be just as serious. As a matter of fact, the entire face and neck should be thought of as the danger zone for it is very rich in venous plexus, especially the face, which is drained by emissary veins having no valve and permitting blood to flow in the direction of least resistance.

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Just at the upper portion of the nasal bridge and between the eyes, the nasal vein is formed, passing through the foramen caecum, entering the superior longitudinal sinus. The angular veins are found forming in the wing of the nose, finally finding their way into the general circulation by the way of the anterior and common facials and on to the external jugular vein. The opthalmic veins form in the region of the eye and its lids and reach the cavernous sinus. The pterygoid plexus lying in the temporal and sub-temporal fossae and pterygo maxillary fissure drains into the facial but when the facial is obstructed it passes by way of the cavernous sinus. The postauricular veins drain themselves into the external jugular, as does the postfacial that drains the condyloid region. The mastoid emissary veins drains into the torcular. Just on top of the mastoid portion of the temporal bone nests a lymphatic gland that is frequently infected and by only slight manipulation can be turned into the mastoid emissary vein. The veins from the lower lip reach the general circulation by way of the jugulars.

Pimples and furuncles are, as a rule, infected by staphylococcus found about the roots of hairs, but as long as streptococcus is always abundantly present, it readily becomes a serious contender. A good rule may be laid down in the adage, "never open one of these seemingly insignificant lesions as long as you will have to draw a drop of blood in the operation." Certainly there is nothing serious about these small lesions as long as they remain localized, but, by some operative interference, if even only a few capillaries should be opened, they might be transmitted to more serious fields. Therefore, it becomes the best plan to keep such lesions touched up with some penetrating antiseptic until the surface becomes necrotic when it can be safely opened. For this surface application, I prefer the use of cresatin, as it apparently does not harden or coagulate the surface as badly as iodine. However, iodine is probably the remedy of choice after the white top can be removed from the necrotic lesion.

During the course of treatment of these superficial lesions one should be guarded to some extent in the prognosis and closely watch for systemic manifestations, such as increased pain, chills, and a sharp rise in temperature. If these things occur the local lesion again becomes of minor significance and treatment must be directed to the blood stream. Blood cultures, frequent blood counts, including a total red, one or two times a day, are of great value for the remedies that must be used in a blood stream infection, such as sulphanilamide, rapidly destroy red cells. Therefore, a total red count twice a day does keep you well informed as to the action of the remedy and the amount of oxygen distributing power that the patient is maintaining. As long as the red cell is the organ by which the oxygen must be distributed, and oxygen is so necessary, it becomes apparent that to keep the red cells in the region of normal is very essential. When the count drops to as low as three million, then small and frequent blood transfusions should become a very substantial part of the remedy.

If blood culture should show positive streptococcus infection, I should think that along with other valuable remedies with which we are familiar, immunized serum, as described by Gill, should be given. I have never had the opportunity of using an immunized serum, but on one occasion at Gill's Clinic at Roanoke, he exhibited a number of patients whom he had treated for a streptococcus infection of the blood and who had agreed to allow themselves called in to furnish immunized serum for future patients found with a streptococcus blood stream infection. Dr. Gill was enthusiastic enough over the outcome to record all patients' names, addresses, date of sickness, age, etc.

There would be some prognostic and therapeutic value in a history of the location of the original lesion after a septicemia had followed. If the original lesion should be in the region of the foramen caecum, infection would be expected to pass to the sagittal sinus and no definite location or plugging could be predicted. If about the eye or orbit, the cavernous sinus would probably become thrombosed, also if the lesion is in the region of the pterygoid plexus it could thrombose the same sinus. If from the mastoid vein it would enter through the torcular and again have no definite point of thrombosis. We would expect, therefore, lesions about the pterygoid plexus, the nose or upper lip, and occasionally those from the mastoid emissary, to be most frequent in producing some brain lesion whereas all of the areas would certainly contribute to a systemic infection.

DISCUSSION

Dr. C. A. Williams (Gulfport): Dr. Adkins has presented a very instructive paper. He has covered the subject so well it puts me in the position of a little negro. A fellow told three little negroes he would give them a prize if they named the best thing to eat. One negro said, "watermelon," another said, "chicken." The other said that there was nothing left. It covers the anatomy and the symptoms. We all know not to pick and open those boils.

I began doing ear, nose and throat work twenty-four years ago. Every summer we would have so much external otitis from swimming. It bothered me so much I was always glad when fall came and I would not be bothered with it. I found that the best way to give relief would be to give them ether and to make an incision. They would have relief when they would wake up. I had found out that cresatin helped them and since then we have been able to give them relief. I have never had any trouble in opening furuncles in the nose. These fissures in the nose that we see have always been very stubborn to treat because they are due to an acid secretion in the nose. I have been using a one per cent salicylic acid solution in alcohol. You may have to dilute this solution. It is much better, in my experience, than silver nitrate.

I enjoyed Dr. Adkins' paper very much and think we have learned much from his presentation of the anatomy involved in facial infections.

Dr. E. LeRoy Wilkins (Clarksdale): In sending me a copy of his paper for study, Dr. Adkins told me that I would find most of it recorded in the first edition of Hippocrates' "Practice of Medicine." Frankly, I have searched the first and last, and all editions in between, of Hippocrates and find no such reference as I find in his paper. However, I do think Doctor's paper is quite timely and gives some very valuable information. Too much stress cannot be laid on the possible serious consequences of facial infections. All too frequently we find a patient who persists in pulling vibrissae from the nose, the eye-lashes, etc., who has developed a more or less severe localized infection. Fortunately, few of these become really severe and still fewer systemic. This is also true with regard to furuncles. etc., about the face. In accordance with his advice, I never open one of these until they have completely "pointed." Experience has taught me that where I must cut through more than the most superficial tissue I am likely to do more harm than good. Doctor mentions cresatin and I, too, find it a great help in these and many other cases including abrasions of the cornea. I have used it for many years. Not only does it have a very high phenol co-efficient but is analgesic as well. The essayist bears down a bit on blood counts, particularly when sulfanilamide is used. Certainly sulfanilamide seems at this time to be the treatment of choice in any streptococcic infection. Perhaps I have not been as careful when I have used it as has Dr. Adkins, but I have been fortunate so far in finding no serious results from its use. I have not had the opportunity to use the immunized serum, as described by Gill, and mentioned by the essayist, therefore, cannot comment on that. As mentioned above, I have been fortunate enough to keep most of these conditions fairly localized and have frequently used poultices of flax-seed and corn-meal somewhat as described several years ago by Dr. Hugh Gamble, of Greenville, who read a paper on a similar subject before the surgical section of this association. I believe with proper early care and treatment, with little interference and no cuttings, we will have a few of these conditions become systemic.

I thank Dr. Adkins for bringing this valuable and timely paper.

Dr. P. E. Werlein (Biloxi): I have had approximately, as far as I can count, three thousand five hundred cases of furunculosis of the external auditory canal in the last few years. I have heard papers on furunculosis and all the troubles the doctors were having. One doctor would give vaccines and use x-ray films.

I have found that in the furunculosis cases, if I did not get the patients well in a hurry I would lose them. I started to use mercurochrome before it was in the drugstores. Sometimes the doctors would come and get mercurochrome tablets from me. These three thousand five hundred cases were not all I had that I know of, but I cured them all with alcohol and water solution. It is the most remarkable thing. If I did not know this I would not believe it. I know what I am talking about. It absolutely does the work. I use approximately 7 grains of mercurochrome to equal parts of alcohol and water, to make ½ ounce.

Mercurochrome—grains 7
Alcohol—drams 2
Water Q. S.—ounces ½

Sometimes the ear is so swollen that you have to pack it in. You can't use the medicine dropper. You have to get it down in the ear drum three or four times a day. You can expect absolute relief within forty-eight hours.

Dr. Hugh Johnston (Vicksburg): I would like to report a case of thrombosis which was due to a patient having an acute abscessed tooth extracted, much against the advice of his dentist. The patient insisted on having it done on account of the pain. The infection probably traveled through the plexus and produced a thrombosis and the patient expired in three or four days. I think the medical profession should strongly condemn this proceeding.

Dr. LeRoy Wilkins (Further Discussion): I want to add my little bit to that. I have been looking for twenty-five years for something to help these ears and for about four or five years now I have been getting a wick into the ear, after cleansing the ear, and inserting a wick in Mulford's ichtholdine. I don't know where I got it now, but I find it gives my patient relief when he leaves the office and that within from two to four days, according to the severity, of course, he gets complete relief.

Dr. W. Lauch Hughes (Jackson): Getting back to the original subject of this paper, it did not involve furunculosis at all. I think Dr. Wilkins brought up the dangers of infections in the face.

I saw a patient in consultation. It started with a pimple at the angle of the nose. It developed a severe, more or less localized lesion here but with no pus, with the head swollen almost even with the neck. The patient ran a temperature of from 104 to 105 degrees, was extremely ill and getting worse every day. This doctor, in despair of his life, took him to the operating room, put him to sleep and made an incision both ways and the patient has made a recovery, not an uneventful recovery, but he has gotten well.

Dr. Geo. Adkins (closing): I am very grateful to those who contributed to the discussion. Thank you.

Some Phases of the Tuberculosis Problem*

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Of the many phases of the tuberculosis problem, all of them important, there are two which deserve special consideration namely, an adequate case-finding program, and isolation or hospitalization of these cases when found. The declining death rate from tuberculosis is one of the most impressive events in modern medical history, but the disease remains the most fatal of all diseases in early adult life, and causes physical disability, economic impairment and social disruption beyond accurate estimation.

In 1915 there were 2706 deaths from tuberculosis in Mississippi, and these figures did not change materially until 1920, when the number of deaths were 2271, and since that time the decline has been almost constant, the lowest number being reported in 1935. In this year there were 1135 deaths, and in 1937 there was a slight rise, the number being 1300, so it is very easy to see that the total number of deaths has been reduced by half in the period from 1915 to 1937. The reason for this rapid decline in the number of deaths from tuberculosis was due to the campaign put on against the disease in 1918, and about this time the State Sanatorium, with a bed capacity of less than 100, was opened. Many cases were arrested and cured in this small institution, and at the same time it became an educational center for tuberculous individuals, and in fact, the whole population of the state.

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Shortly after the opening of this institution there was put into operation an extension department. The purpose of this department was educational, and thousands of pieces of literature were distributed throughout the state, and at the same time through this department an attempt was made to educate the whole population on the subject of tuberculosis. This work was progressing nicely when about 1924 Mississippi sent to Jackson an economical-minded legislature, and the appropriation for tuberculosis work in Mississippi was reduced to such an extent that the extension department had to be discontinued, and it was several years before this work was resumed. Had it been possible for the program outlined by Dr. Henry Boswell at that time to have been continued, I feel sure that the tuberculosis situation in Mississippi would be much better than it is today. The general public health program played a considerable part in the fight against tuberculosis, as well as the program directed toward eradication of the disease. Through public health work principally, hookworm infection, typhoid fever, malaria and numerous other diseases have been reduced, and some of them almost completely eradicated. The fight against these diseases and the improvement of general health conditions have been a contributing factor in the reduction of the number of cases and the number of deaths from tuberculosis.

The figures mentioned show a remarkable reduction in the death rate from tuberculosis and would indicate, without further analysis, that we have the disease pretty well under control, but the fact remains that between the ages of 15 and 40, tuberculosis accounts for more deaths in the general population than does any other disease. The highest death rate is in young women between the ages of 15 and 30. One out of every four deaths between these ages is due to tuberculosis.

In general the percentage of tuberculosis cases diagnosed in their early stages has increased discouragingly little in comparison with the lowering death rate. The recent survey of the Council of Medical Education and the hospitals of the American Medical Association reveals that only 13 per cent of the 66,000 patients were in the incipient or minimal stage of the disease when admitted for treatment to the hospitals and sanatoriums of this country. There are various reasons for this situation, one of the most important being that at least 60 to 70 per cent of tuberculous people do not develop an awareness of ill health until the disease has entered the moderately advanced or far advanced stage. In a group of intelligent nurses who are employed in Bellevue Hospital in New York, and who may have medical examination on request, it was found in a five-year study that about two-thirds of those who develop clinical tuberculosis have moderately advanced or worse lesions when the diagnosis is first made. The reason is that in the early stages subjective symptoms are lacking or misinterpreted as physiologic fatigue, nervousness or something equally innocent. It seems difficult to educate the lay public against this human tendency to ignore apparently small troubles. It is desirable, therefore, to seek for case-finding methods that are effective for early diagnosis, practicable and not liable to arouse undue apprehension in the population.

In communities of people tuberculosis tends to pattern its behavior along well recognized lines. As has already been stated, young adults and adolescents are especially liable to attack, especially young women are more vulnerable than young men, but the reverse holds true after the age of 30 to a more striking degree. Color is a prominent element in the pattern, especially in young people. Dr. J. Burns Amberson states that the death rate is commonly five to ten times as high among young negroes as among white persons in New York City.

Case Finding Methods

In our work at the Tuberculosis Clinic at the North Mississippi Community Hospital at Tupelo, Miss., we have examined during the last year 420 people, and have found 39 active cases who had not been previously diagnosed, and 52 primary infections. These people were practically all contacts. In the work in this clinic we make examinations for people who live within a radius of 25 miles, and the clinic is operated for those who are not able to pay for such examinations. The great majority of our examinations are residents of Lee County, this being the county in which this hospital is located. The organization of this clinic has been a comparatively easy undertaking, due to the fact that we have in Lee County an excellent public health department, as well as an active tuberculosis association. The health department has been doing considerable work along this line for several years, and has located the majority of the open cases of tuberculosis in the county, and of course, has listed all the contacts, and we are making a special effort to examine all these contacts. A thread which runs through the whole pattern is the opportunity for intimacy of contacts with open sputum positive cases, usually in the household. This contact may have been recent or remote. The clinic in Lee County has been open only one year, and on checking our results we find that 90 per cent of all cases found give a definite history of exposure to another open case of the disease. The first necessary requirement for a campaign of this nature is a well organized public health department in the county or district. It is often a difficult job to get the consent of the patient to submit to an examination. This is largely due to the fact that the people have not been trained along the lines of preventive medicine, and frequently the tuberculosis suspect is a healthy appearing individual, and it may have been five, ten or fifteen years since he was exposed. Sometimes you see large families who have been household contacts, and maybe ten to fifteen years have elapsed since the last exposure, and these people have forgotten the fact that they have ever been exposed to a case of tuberculosis. Hence, it is necessary to explain to these individuals that a person may get a primary infection in early years of life and carry it sealed up somewhere in the system, usually in the lungs for a number of years, then suddenly for some unknown reason it becomes an active case of the disease. It requires a great deal of training and tact on the part of the public health nurse to get these people sufficiently interested so that they will undergo a complete investigation as to their tuberculous infection. Needless to say, in our clinic we attempt to get as thorough history as possible, especially listing the contacts.

When the individual reports to the clinic, we make a general physical examination, but this is not relied upon to any extent as a case-finding method. The solution to the problem of diagnosis is the x-ray—"x-ray marks the spot." The stethoscope, which we have all used for years, plays a very little part in the examination of tuberculosis suspects because of the fact that the lesions to be looked for are very small and no one, regardless of how thoroughly he may be trained in the use of a stethoscope, can detect these very small early lesions. The x-ray is absolutely necessary in finding primary infections. In case-finding campaigns the tuberculin test may be used to determine the infected individuals, but this is a great deal of trouble, so if we will adhere to the examination of contacts we will find the great majority of our cases early. When I say "early," I mean a minimal lesion which has never produced any symptoms whatever, and this lesion can only be detected in a properly made x-ray picture. It is the opinion of a great many workers in the field of tuberculosis that the tuberculous lesion can be located with the x-ray from two to three years before the patient is sick enough to cause him to seek medical advice. Sputum examinations should be made by a competent technician. A sputum examination to the average individual means the same, regardless of whether it is made by direct smear, concentration method, culture or guinea pig innoculation. When the patient is told that his sputum report is negative, that means to him usually that he does not have tuberculosis. The only reliable methods of sputum examinations are concentration, culture and guinea pig innoculation. I think the direct smear should be forgotten, because it is entirely too unreliable. If it is made and the bug is not found, the patient should never know the results.

After all these case-finding methods have been carried out, little will be accomplished unless the yield is studied and sorted by physicians of experience after proper clinical study. Regarding these small symptomless lesions, the physicians must have convictions as well as skill, since the proper treatment of such lesions is the most effective measure in combating tuberculosis. It is doubly effective since it surpasses any other means of restoring a patient to lasting health and is the best preventive of the development of advanced tuberculosis, which is the infection source of almost all subsequent tuberculosis in other people. It is apparent, therefore, that neither the case-finding survey nor the skill and conviction of the physician will be of avail unless facilities are provided for prompt and proper treatment. A sanatorium waiting list is a positive curse in any state. The cost of case-finding is considerable, but trifling in comparison with the cost of advanced tuberculosis in most communities. The records of all institutions show that practically all of these small symptomless lesions heal promptly, and usually without the use of pneumothorax or other surgical means. Tuberculosis is a most curable disease in its incipiency. Trudeau Sanatorium follow-up statistics show that 90 per cent of their early cases are living and well at the end of fifteen years.

In 1937 there were 1300 deaths reported from tuberculosis in Mississippi. Of this number about 300 were white and the remainder colored, so we can readily see that the control of tuberculosis in Mississippi points to the negro, especially in the areas where the population is very heavy. The Mississippi State Sanatorium has 425 beds, 385 of which are for white, and 40 for negro patients. We are faced with the fact that the majority of tuberculous individuals are so closely associated it would be absurd to keep up the fight against the disease in the white race and leave the negro untreated, and allow him to carry the germs into practically every household in Mississippi. Just what the solution of this problem will be, we cannot say, because of the fact that the economic condition of the colored race is such that practically 100 per cent of them are classified as indigent, and would have to be treated at the expense of the Government.

In all control programs the minimum requirement is one bed for each annual death, so you see we have considerable shortage of beds in Mississippi,—1300 deaths and 425 beds, and the state appropriation is insufficient to operate all these beds at present. It is absolutely necessary that we have a considerable increase in the number of beds for tuberculous people in this state. Because of this lack of sanatorium facilities, thousands of people are being allowed to remain in their homes who have open cases of tuberculosis, and the children of these families are becoming potential tuberculous individuals. In a number of counties, cottages are provided for these unfortunates, and in some instances, artificial pneumothorax is given in clinics and in homes. Pneumothorax is one of the most effective means of controlling the spread of tuberculosis, because it closes up the cavity from which the germs escape. How are we going to get an increase in sanatorium facilities? It must be done through appropriation by the state legislature, and this is a tough job in any state. I know personally that the superintendent of the State Sanatorium has spent week after week worrying with the legislature to get sufficient appropriations to operate the beds we already have. The movement to increase our sanatorium facilities must originate in the medical profession and the interested citizens of our state. This must be a concerted movement on the part of our state medical association. No one man can put this over by himself. Mississippi has spent millions of dollars for roads, relief, schools and numerous other projects. They are all worth while, but at the same time we are going along allowing hundreds of our citizens to die every year, and more hundreds totally disabled from a disease that could be entirely controlled by the expenditure of a small amount in comparison to the enormous sums that are being spent for public improvements today.

SUMMARY

1. Pulmonary tuberculosis remains the first cause of death among young adults.

2. From 60 to 70 per cent of tuberculous people, even intelligent ones, are unaware of symptoms of serious disease until a pulmonary lesion is moderately or far advanced.

3. Most cases will not be diagnosed early, except by case-finding methods based on a familiarity with the characteristics of tuberculosis as a community disease as well as an individual lesion.

4. The simplest and most effective method of case-finding consists of x-ray surveys of the chest of selected susceptible groups, in some instances with preliminary tuberculin tests.

5. In the yield of cases of such surveys the proportion found in the earliest stage is 70 per cent or more.

6. If the cases found are skillfully studied, promptly and properly treated when necessary, the accomplishment of actual cure of the disease and prevention of spread of infection to others exceeds that of any other known method.

7. Mississippi has accomplished a great deal in the control of this disease, and all has been done that was humanely possible with the facilities provided. To bring about further control we must have a minimum of 1000 beds, and of course, sufficient appropriations to keep these beds filled with patients, and an added appropriation to continue the case-finding methods now being carried out by the Sanatorium staff.

8. This will be done when the physicians of Mississippi demand that such a program be carried out. The people will follow if the physicians take the lead.

DISCUSSION

Dr. D. L. Anderson, (Field Clinician): Dr. Toomer has given us a comprehensive picture of the tuberculosis problem as exists in this state today. It seems to me he is rather conservative in his prognosis of the future. The points stressed—namely, (1) adequate case-finding, and (2) isolation and hospitalization, are the ultimate aim in eradicating tuberculosis. This state has a well-rounded case-finding program. 3,478 patients were examined by the state clinicians in the year ending June 1938. Approximately 4,000 patients were examined during the past year in the full-time county health departments. 1,600 school children have been tuberculin tested and x-rayed. In Jones County, over 300 school teachers were x-rayed. Dr. Dugger, our state factory inspector, has tuberculin tested and x-rayed about 4,500 employees. In addition, 748 patients were examined in the out-patient department at the Sanatorium. Less than 5% of the positive cases diagnosed were admitted to the Sanatorium during the past year. This is no fault of the institution because inadequate facilities prohibit admitting more than can be taken care of. From this standpoint, it is indeed discouraging. We know the cause and the approximate number of people in this state who have the disease. We know the method of control and the means of eradication but because of the failure of the legislature to appropriate adequate funds, and the scarcity of the physicians willing to learn more about the disease and establish pneumothorax clinics in their respective counties, and because 70% of the deaths in this state are among negroes, 98% of whom are indigent, our death rate in Mississippi has not decreased as much as it should have the past few years. As a matter of fact, the number of deaths increased in 1936 and 1937 over the preceding years. We have our State Sanatorium, the nucleus and educational center of the tuberculosis program. We have our health officers, most of whom are vitally interested in control of tuberculosis work in their respective counties, and we have the help of state and county tuberculosis associations in our clinic. The ultimate aim of these clinics is to help the physicians make a diagnosis on their cases.

Tuberculosis costs the State of Mississippi several million dollars a year in time lost from work and medical care, to say nothing of the tragic deaths that occur weekly as a result of the disease. Yet, less than two hundred thousand dollars yearly are appropriated to take care of the problem.

Indeed Dr. Toomer is to be congratulated for the work he is doing at Tupelo. Here, collapse therapy is employed in the suitable cases. Isolation, when possible, is done and a general program of education is carried to the citizens of this county. The success of his program is due to the full co-operation, first, of the physicians of his county who have used their influence to make Lee County a healthier place to live, second, to the county health workers who have diligently sought out all tuberculosis contact cases and referred them to the clinics, and last, to the community spirit exemplified by its citizens to clear up and clean up this chronic infectious disease.

I trust that at the next meeting of the legislature, the physicians of this state will pledge themselves in helping us to obtain an appropriation adequate enough, not only to increase the size of the Sanatorium but to equip county institutions so that they might take care of their local problems, referring only the special cases to the Sanatorium for special surgery. For example, Lauderdale County has an ideal set-up for the control of tuberculosis in its county. If an additional three thousand dollars yearly were added to its twelve thousand budget by the board of supervisors, instead of its patients being treated merely by bed rest, an x-ray could be purchased, pneumothorax could be given, full-time nurses might be employed and the number of admissions and discharges could be increased practically 100%. Here, the success depends on the physicians as a group who are willing to exert their influence in their respective communities.

Dr. Blackwelder (Hattiesburg): When a person has active tuberculosis it is evident that his natural resources to fight this disease have been exhausted. It is the turning point in his life. He needs help at that point. That help, we believe, should be in the form of hospitalization and treatment, which necessarily involves cost on the part of somebody. The most of these people are indigent people, who are not able to pay for hospitalization. Somebody is going to have to supplement their meager income, sometimes no income at all. This cannot be had except by taxation. Now we were informed yesterday that there are a million and a half dollars in the treasury of the State of Mississippi to help the people who are sick in Mississippi if the proper information can be given to the legislature for an appropriation of that money. I dare say that the proper information has been submitted to the appropriation bodies time and time again by the people who know the situation in Mississippi concerning tuberculosis, and yet our institution is running about two-thirds or hardly so much. Now something is inconsistent about that — I do not know what it is. The deplorable thing to me in our study of tuberculosis is the lack of interest on the part of the general practitioner. Time and time again I have had physicians tell me: "I do not treat tuberculosis, I do not even go to see a case of it. I do not have anything to do with it at all, they are not able to pay in the first place." These men know that unless somebody comes to their aid and helps these people all along the line, that we are going to remain in the same condition we are in today.

Our tuberculosis rate is going to be high. Many people who are already 15 to 40 years old—the Government has already invested in their raising up to that time—are at the point where they are supposed to go to paying back the Government something, and what we should do is to try to evaluate as best we can our health problem and let those who will bring to the people the greatest return for their investment take precedence over the rest, regardless of what those conditions are.

Dr. Felix J. Underwood (Jackson): I wish to congratulate Dr. Toomer on this splendid paper. I agree with him in every detail outlined. I wish we had a Toomer in every county in Mississippi. If we did we would certainly make much more rapid progress in eradicating tuberculosis from the state. Of course, we need more facilities, more bed capacity, more field work and more educational work throughout the state.

Dr. H. C. Ricks (Jackson): There is only one point I wish to discuss and that is the reference to the laboratory procedure — this sputum examination. I do not know how you got it, but Dr. Toomer said with a concentration method of examination of the sputum you can be sure. Now the concentration method after it is received by the laboratory is more expensive to do than just to make an examination of the specimen. We have run a series of specimens. The way we have done it for a long time is by the concentration method, and as a result we are willing to hang our heads in shame that we have not done a better job in finding positive cases of tuberculosis. With the concentration method it is necessary to use a certain type of stain in order to protect the eyes of the individual who is doing the examination. If you use picric acid you get a yellow stain, and by looking at your microscope for a long period of time you get trouble with your eyes. You should use a 1% brilliant green as a stain for your slides. In this way by using the concentration method, the upper auto-blood of the specimen and the sediment of the specimen, and the brilliant green staining method you will find about 12% more of the specimens that you examine than you will if you use the old system of methylene blue. That is what we have found and we have adopted the concentration method in the state laboratory for the examination of sputum. We think it is worth while. It is more expensive, but we think if you find positive sputum and the person knows he has tuberculosis, in a large percentage of instances he is going to use some precautions. If the doctor gets a negative sputum there is a good chance the doctor will tell the patient he does not have tuberculosis and he goes on spreading it just the same.

Now for the statement about the specimens for volunteer work. We have adopted a special container for sending specimens to the laboratory. The state makes no provision for taking care of its employees or for taking care of the person who contracts the disease while on duty. We have adopted this container, which is valuable to the doctor, and may be obtained without charge and you will get the concentration method of examination.

Now don't send us sputum in ordinary vaseline jars, for our containers contain 5 per cent lysol and we feel better in handling specimens in these containers. If you send one in raw we either have to prepare it before we can permit the technician to handle it, or after it is gone over to the laboratory they are liable to throw it away and not handle it because I have instructed them not to examine raw specimens. We believe we can help some in the finding of open cases of tuberculosis that otherwise would not have the opportunity to be diagnosed. The x-ray can not get to them because they are not where the x-ray can be reached. We can do some good if we can't take all these people in the sanatorium, by informing them they have tuberculosis and the chances are they will take precautions not to infect others.

Dr. Toomer, closing discussion: I just want to thank the members for discussing this paper.

The Narcotic Patient

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This type of patient is a sick individual and must be treated as such if anything is to be accomplished. He is sick mentally and physically, and his addiction is purely a symptom of some disease or disorder of the central nervous system or physical system. There are some addicts who take the drug to bolster their emotional system, thus giving them a feeling or sense of well being in which they feel more able to cope with the every day problems of life. This overcoming of inferiority feelings by the use of drugs is often spoken of as an "escape" from reality. Feelings of inadequacy are also considered to be one of the causes of addiction.

Constitutional inferiority includes those individuals who are defective in protoplasmic make-up physically and from the viewpoint of the nervous sytem, and because of these protoplasmic deficiencies they do not and cannot stand the stress and strain that the normal healthy adult can. This group takes in the psychopathic personality and constitutional psychopath.

Narcotic addiction in some cases may be a symptom of a beginning mental disorder as paresis or dementia praecox and in these cases the addiction may mask the true pathological condition. And again narcotic addiction may be the precipitating factor in a psychosis. Organic brain disease with its breaking down of the structure of the central nervous system and with an instability of the emotions, nervousness, irritableness and a chain of other symptoms frequently results in narcotic addiction and unless the patient is carefully studied the cause of the addiction remains undiscovered and later his complete break was said to be due to the drug, where, as a matter of fact, the addiction was but a symptom and the organic brain disease was never discovered.

One group of narcotic patients has not been stressed enough and we especially want to call the attention of the family physician to this particular group as these patients in the majority of cases put the blame and responsibility on the family doctor. This is the psychoneurotic group and in this group belong the true hysterias, anxiety neurosis, the psychasthenias, etc. These individuals as a result of their conflicts and complexes and their inability to adjust themselves often develop headaches, pains of different types and many bizarre symptoms, and the family doctor, after trying everything, finally has to try a hypodermic of some narcotic. This seems to produce better results than anything and the patient after a time begins unconsciously to look forward to the emotional episodes with their resulting relief by hypodermic. A careful analysis of these patients at this stage and a frank discussion of their case may prevent this type of case from becoming an addict. If the family physician is not able to make the progress he feels that he should, then he should suggest a consultation with a neuropsychiatrist before the addiction has become fixed. In our experience these cases always blame the doctor. This type of case frequently becomes addicted to the phenobarbital and allied groups. The unraveling of this type of case may be easy in the beginning but once well developed will test the skill of the best psychiatrist.

Another group to be considered is that type of individual who has been well adjusted and stable all of his life and who as a result of some accident and severe pain has to have narcotics over a long period of time. This type of patient frequently leaves the hospital a mental and physical wreck, whereas at the time of the accident he was a sound and healthy individual. Here we must consider that the individual has used up all physical and mental resistance and the handling of his case will require good judgment and insight by the physician in withdrawing the narcotics as slowly as possible because of the shock to an already markedly debilitated individual who requires rebuilding and encouraging in every way.

The so-called pleasure addict is more scarce than one would think. When occasionally seen he belongs to the group of "constitutional inferiority" already mentioned.

Contrary to the opinion held by most laymen and quite a few medical men the vast majority of addicts are unhappy and want to get off the drug. The fact that they are slaves to a drug that may lead to their arrest and detection at any time afflicts them with constant fear. "It is like expecting someone to sandbag you in a dark alley at night." They expect it and don't know if and when it might happen. To the sensitive addict this fear is terrible. Again the addict is always afraid that he had not taken enough drug on his last dose and thinks he should always take another one because "maybe" he cannot or will not be in position to take another dose at his usual time. The fear of detection, the possibility of being discovered by his family, the possibility of the source of supply being cut off and the shame he feels, all make the narcotic patient an unhappy individual.

Regarding the veracity or truthfulness of the narcotic individual we find that the habit does not make liars and cheats out of individuals. A careful investigation of these cases will prove that the individual was a liar, etc., before taking narcotics. In the presence of organic brain disease the addiction does bring out some tall tales, but these are a symptom of the brain disease and the narcotic simply releases the mental inhibitory processes. The average narcotic patient can be expected to tell the truth on all subjects except one and that one is regarding narcotic. Given two identical patients of the same constitutional make-up, resistance, etc., and let one be a heavy alcohol addict and one a heavy narcotic addict, we feel that the veracity of the narcotic patient will be more dependable than that of the alcoholic.

The narcotic patient of all patients is one that should receive a most careful study because of the mental phases and the far-reaching effects of the narcotics on the physical make-up of the individual. There is no question that the narcotic drug has a definite inhibitory action on practically all glands of the body. The marked activity of the liver with its increased flow of bile after being free from narcotics, even by the gradual reduction method, is an example of the inhibitory action of the narcotic. Again consider the female patient whose menstrual periods prior to use of narcotics were normal but who will show, in the majority of cases, a cessation of the menstrual periods when addicted and a return of menstruation after the withdrawal of the narcotic drug. The above illustrations show in a small way the far-reaching effects of the narcotic on all parts of the human anatomy.

A careful history of the patient must be taken and as far as possible let the patient give all details concerning his various illnesses and especially those that have a bearing on the beginning of the addiction. Never hurry the patient or get impatient when taking the history. Frequently the history is obtained piece-meal. As the confidence of the addict increases, regarding his physician, many important points regarding the patient and his personality are brought out. A careful physical examination must be made with special attention being paid to the cardiovascular-renal system. Neurological examination carefully done and evaluated will often reveal the **why** of the severe aching, burning sensations, anaesthesias, hyperaesthesias, sensations of ants crawling on the skin as well as disturbances of taste and smell. Laboratory examinations should include a complete blood count, white and differential and malaria. Anisocytosis, poikilocytosis, achromia and polychromatophilia will often give valuable information. Wassermann tests, and especially the Kolmer Wassermann, should be run routinely. Blood sugar and non-protein nitrogen are never to be omitted. Routine urines are run at definite periods—frequently the patient may show showers of casts and red blood cells which clear up as treatment is instituted. Where necessary all types of laboratory work should be at the command of the neuropsychiatrist in charge.

TREATMENT
- 1. Preventive
- 2. Curative

PREVENTIVE

The proper understanding of the nervous cases by the family physician and whenever necessary frequent consultations with the neurosychiatrist will prevent the formation of many addicts. All patients in a general hospital who for some good reason have been receiving narcotics for a period of time should be gradually reduced and taken off with as little discomfort as possible before being allowed to return home. This is true of the surgical cases, medical cases and all types of patients.

CURATIVE

Institutional treatment is mandatory. A well managed and regulated sanitarium under the care of trained neuropsychiatrists who understand these cases should be the institution of choice.

We are of the opinion after years of study and observation that the gradual reduction method of treatment is the most humane and scientific of all types of treatment for the narcotic patient. This type of treatment must be systematized and regulated according to the individual case. The period of reduction will vary in each case but it cannot be hurried nor stepped-up as the patients frequently ask to do because to do so would result in their going to pieces in a few days and definitely setting them back. Three to five weeks is the usual time required for this plan of treatment. During this time a supportive plan of treatment is carried out so as to build up every phase of resistance of the patient. **The withdrawal of the drug does not produce a well patient but must be followed by proper institutional care and treatment.**

Night Blindness and Vitamin Deficiency as Evidenced by the New Biophotometer*

ROBIN HARRIS, M.D., and GEORGE W. OWEN, M.D.
JACKSON, MISS.

THE SUBSTANCE in the eye that enables us to see light is visual purple and visual purple is produced from vitamin A. Visual purple is destroyed by light but is normally regenerated from available vitamin A in the system. Exposure to bright light reduces this visual purple faster than it is regenerated and once reduced below the normal level our sensitivity to light is lessened. The ability to regenerate visual purple is delayed in the vitamin A deficient individuals and the first clinical sign of vitamin A deficiency is the inability to regenerate visual purple as rapidly as normal—and then "night blindness" results. The biophotometer is an instrument used to measure the destruction and regeneration of visual purple by light and to record this in millifoot candles.

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*Read before the Section on Medicine at the seventy-second annual session of the Mississippi State Medical Association, May 11, 1939, Gulfport.

**This short clinical note on vitamin A deficiency does not cover enough cases to be conclusive and will be continued in a future report.*

One test only has been questioned as to accuracy in that the patient does not quite grasp the meaning. In order to educate the patient each test is usually repeated. We find little difference.

The instrument is used in all of our tests in exactly the same manner as directed by the makers of the biophotometer—Model A.

The incentive to study this subject was partly due to a Supreme Court decision of a suit by J. W. Fleming and others against the Evan's Motor Freight Lines and others for the death of Eva Fleming, sustained in an automobile accident. Judgment for the plaintiffs affirmed. In this case, I gather that perhaps the driver of the death car may have been vitamin A deficient and this is a point not taken into consideration by either of the judges. As above indicated, a bright light destroys visual purple rapidly and it is a known fact that people deficient in vitamin A cannot see when meeting a car with bright lights since the visual purple is almost immediately destroyed and such a driver should slow his car to a speed of less than 30 miles per hour. Today the biophotometer test is being used in routine tests of airplane pilots and, perhaps, will soon be a requirement for the licensing of automobile drivers. This now should probably be applied to drivers of commercial vehicles.

About 200 readings in patients who come because of eye disturbances are not included in this paper but will later be elaborated upon.

TABLE 1. RESULTS OF BIOPHOTOMETER TESTS OF ALLERGIC PATIENTS

	Pathologically Deficient	Borderline Deficient	Normal
32 Patients	7	16	9

The ages in this group range from 21 to 77 years. It is rather surprising to find so many normal in allergy since many of these patients have been on a rather strict diet, but we do find that practically all of the normal are new patients who have been eating as they please.

TABLE 2. RESULTS OF BIOPHOTOMETRIC TESTS OF HYPERTENSIVE PATIENTS

	Pathologically Deficient	Borderline Deficient	Normal
28 Patients	6	18	4

The ages in hypertensive patients tested range from 28 to 69 years.

Getz, Hildebrand, and Finn[1] in testing ambulant tubercular individuals find that "the vitamin A deficiency paralleled the severity of the tuberculosis" and "whether the tuberculous persons are deficient because of their infection or whether chronic infection develops because they have less vitamin A is still unanswered." They also conclude that tuberculous individuals require massive doses of pure vitamin A in the form of halibut liver oil to bring about a rapid rise in vitamin A content. Up to 200,000 units daily were used by them and this gave a prompt response in the pathologically deficient.

TABLE 3. RESULTS OF BIOPHOTOMETRIC TESTS OF TUBERCULOUS ADULTS

	Pathologically Deficient	Borderline Deficient	Normal
100 Patients	45	53	2

Of the two normal, one was taking vitamin A in small doses. Of the pathologically deficient, four were taking vitamin A in small doses. Of the borderline deficients, fourteen were taking vitamin A in small doses.

It is stylish, especially in this section of the country, to vary markedly the food all families take from a winter to a summer diet, a so-called lighter food being generally prepared by the housekeeper in the summer. On the other hand, the body needs vary according to the amount of energy expended. Since day hours are shorter in winter and we stay indoors more in winter against more daylight hours and more exercise in summer the body needs are frankly greater in summer than in winter. We, therefore, do not need sandwiches for supper in the summertime. Perhaps the only class of food that should be reduced in spring and summer is carbohydrates.

Observation would lead us to believe that there is no place in human economy for white bread and white rice.

Another observation that we have some evidence to support is that vitamin B is more reduced in our modern diets than any other vitamin and that most all winter foods are much reduced in their content of vitamins A and C. All stored fruits contain less vitamin C than our own native grown fruits and vegetables. Vitamin A is much reduced in milk and butter in the winter because cows do not eat green grass in this season.

CONCLUSIONS

A large percentage of the population suffers from hemeralopia or night blindness (amounting to day blindness in many) and do not know it. Second, all drivers of commercial vehicles should be tested and found vitamin A sufficient. Third, practically all tuberculous individuals are vitamin A deficient and practically half of such are markedly pathologically deficient.

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DISCUSSION

Dr. Hugh Johnston (Vicksburg): As you know, 40,000 people died last year in automobile accidents. Insurance charts show that most automobile accidents happen Sunday afternoon or evening at dusk. Certainly a small percentage of these accidents is caused from vitamin deficiency—just what percentage we do not know, of course, until we take a test on all drivers. I think that there should be some attempt made on the part of the medical profession to impress the legislative bodies to get on this subject. I believe all drivers should have an examination for vitamin A deficiency along with their examination for license.

Dr. L. S. Gaudet (Natchez): Since these two gentlemen are doing very original work in Mississippi I feel that several of us ought to discuss this problem, because it is a very important one. We all realize the fact that in the majority of deficiencies there are many, many patients who do not have wholly retracted areas without glasses, but they have other conditions that glasses do not fit, consequently one of these items is the vitamin deficiency, and we ought to give a good bit of attention to it. We ought to study more upon those cases and we ought to bring pressure to bear on our legislative bodies to be able to pass laws to have these visual defects corrected. Now that Mississippi is having so many good roads, and they are making the automobiles to go so fast, we are having too many accidents and particularly among the young people.

As Dr. Johnston just said, there ought to be some means of forcing these people to take the proper kind of examination when they take their examination for a license, not only reading a chart for five minutes and getting their visual accuracy, but a thorough examination. I feel that both Dr. Owen and Dr. Harris are doing some wonderful work and should follow it up. We should assist these men in going forward with that work. I am sure we all enjoyed the presentation very much.

Dr. George W. Owen (Closing): I have only this one comment. It seems that we have no practical method by which each vitamin deficiency can be measured, and in a general way we are applying it as a vitamin deficiency as a whole.

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Manuscripts and material for publication under the Mississippi State Medical Association should be received not later than the twentieth of the month preceding publication. Address material to Lawrence W. Long, M.D., Suite 412 Standard Life Building, Jackson, Mississippi.

Four years ago there was conceived in the minds of one of our prominent medical leaders, Dr. Harvey F. Garrison, Sr., of Jackson, Mississippi, the idea of having a conference composed of the presidents, presidents-elect, secretaries, and editors in the territory, and at the time and place of the meeting, of the Southern Medical Association. The purpose of such a meeting was to afford those attending an opportunity for an "off the record" discussion of problems of mutual interest.

This plan was successfully inaugurated at Baltimore; the second meeting was held at New Orleans, the third at Oklahoma City; and the next one will be at Memphis, Tennessee, November 21.

Since there is no publication of the thoughts and ideas expressed by the leaders at these meetings, this, of course, permits a much more liberal use of the tongue than one might otherwise expect. Ideas and problems have been ably discussed by such men as: Drs. Irvin Abel, Arthur McCormick, Walter Vest, Harrison Shoulders, Ed Cary, Seale Harris, Felix J. Underwood, and many others of equal prominence.

Among the discussions that have been very timely, indeed, are the Wagner Bill, the proposals by a national committee for co-ordinating health, and ways and means of increasing interest in the programs of the state and national medical associations. There is no doubt but that many ideas have been fostered which have aided in molding the opinion of the medical profession of the nation. These meetings have assisted in the dissemination of first hand information to the medical profession throughout the Southland by men of widespread influence who have attained prominence in the profession.

We who live here in the South feel that we have ascertained a more complete working knowledge of what has been, and is, going on in the realm of the United States in regard to government and the practice of medicine. We learn what each state is doing to meet its problems.

This conference has been the means of bringing together the medical leaders not only of the Southern states but also of the nation as well. It is providing a potential source for much good to be accomplished for the Southern Medical Association. It has met favorable reception with all who have attended and, since it is growing in popularity from year to year, indications are that a greater number will be in attendance in November than ever before.

To be able to discuss and hear discussed the problems that confront the profession in the South, which are generally different from other sections of the United States, is a great and glorious opportunity. Every state represented will feel the benefit in proportion to its representation, and it seems evident that great good will be derived from this meeting. It will be a distinct loss to the leaders of the profession in the Southern states if they do not avail themselves of the opportunity of attending this conference and thereby glean the most modern ideas from the minds of the leading men in the profession.

In this, as in his services as president of the Mississippi State Medical Association, as councilor from Mississippi to the Southern Medical Association, as a member of the House of Delegates of the American Medical Association, and as chairman for the American Academy of Pediatrics for Mississippi, Dr. Garrison has, and is, rendering invaluable service to the profession.

— L. W. L.

ANAMNESIS

Anamnesis from its Greek etymology means literally "a recalling." Dorland indicates that it is the past history of any particular case of disease including information obtained concerning the patient, his family, his previous environment, experiences and sensations. In medical usage it is a term used to include collectively the several parts of a case record.

Good records are essential to efficiency in medical practice. Records remind the doctor to be thorough in examination, treatment, and after care. They also stimulate him to be accurate in descriptions and the use of terms thereby improving his knowledge. Then when any research is carried records are imperative. In all hospital practice records are required because it simply improves the service the hospital renders. The State Hospital Association requires that the member hospitals keep good records and in conjunction with the State Charity Hospital Commission sends an inspector out each year to see that all participating hospitals keep good records as well as have the other equipment requisite to good service.

All doctors are capable in record or history writing but the reason we fail is that we do not take the time. It requires a little work and there is no short cut to a good anamnesis. In office practice case records are desirable as well as in hospital practice. It will often not be as complete but the more complete the better. Many printed forms are on the market that propose to save time and work. These are better than no record, but a most excellent case record can be kept on standard size typewriting paper with a heading marking it a History Sheet with space for such preliminary data as the name, address, date, age, and occupation. Then one can begin with the chief complaint and write as exhaustive or as brief a record as he desires. In employing a regular stationery blank form one will not be hampered with having too little space. He can elaborate on any part of the examination as much as is required.

A good case record may be described by listing the several parts which are the history, physical examination, laboratory work, operative record (if operative case) or treatment record, progress notes, and follow-up record. In hospital cases there will be graphic clinical charts and nurses notes.

This subject matter is elementary but fundamental. If we will take time to write case records and put pride into the task we will be better doctors and in turn render more efficient service to the patient.

S. A. H.

PARRAN ON SULFANILAMIDE

Recently an article by Thomas Parran, Surgeon General, Public States Health Service, on sulfanilamide came out in the lay press warning the public against the dangers of this drug. This article bore the caption — "Sulfanilamide — Miracle or Menace?" It particularly warned against self medication describing vividly the serious and even fatal results that may follow when it is used without proper medical supervision.

This article was most timely and will do a tremendous amount of good. It is hoped that every layman in the nation read it. The writer has repeatedly found instances of self-medication with this drug in his own practice. And no doubt every physician in Mississippi shares this same experience. Ethical druggists could stop the abuse in the use of this product but since every town has one or more drug stores where it can be obtained over the counter, the education of the layman becomes necessary.

The Surgeon General's article points out that the Food and Drug laws lack "teeth" and do not control sulfanilamide properly. Therefore, it behooves every doctor to do his bit in educating the general public against self-medication with this drug.

The most frequent self-medication with this drug is in the treatment of gonorrhea. It is certainly frequent when gonorrhea becomes fatal, yet it is frequent that the indiscriminate use of sulfanilamide may prove fatal. Let us act to prevent a treatment from becoming more serious than the disease!

S. A. H.

SOUTHERN MEDICAL ASSOCIATION

The Southern Medical Association is the second largest in attendance in the United States. It holds its thirty-third annual meeting in Memphis November 21-24. Its membership is made up from sixteen states and the District of Columbia. Its scientific program is one of the very best offered by any association on this continent. The fraternal spirit is the very best of any association we have ever attended. Its social and recreational features are of the very finest type. The entire field of medicine, surgery, and public health are covered by the very best men in the South and the nation. Freedom of discussion gives every member an opportunity to express himself and to pass on an idea of value to his fellow doctor. At the Southern you may obtain definite, specific, information for your practice and it is just certain to broaden your vision and give you medical poise. The general session that is to be held on Tuesday evening at 8 P.M. is a very fine feature of the association. It was instituted four years ago by the able and efficient secretary-manager, Mr. C. P. Loranz, and has proved to be very popular. At this meeting you get the views of the medical profession and the layman as well. The educational value of this session can hardly be over estimated. It is already proving a power in bringing about a better understanding between the medical profession and the people. There is so much going on at the Southern, so many good things, that you will not be idle one minute. You cannot afford to miss this meeting, your patients cannot afford for you to miss it. Certainly the doctors of Mississippi should turn out in a big way. The Southern Medical is not to be surpassed any time, anywhere; but in Memphis it is still more glorious to attend. No city is more cordial, no one knows better how to make you feel free and easy, especially with Dr. W. L. Williamson as general chairman and Dr. J. H. Francis as president of the Shelby County Society. Let us pack our valise and be on our way.

FIRST AID AT HOME

Most Americans have a profound respect for scientific methods. They are also incorrigible gadgeteers. For both reasons there has been a trend to overhospitalization in recent years. The institutional equipment attracts even when it is unnecessary.

Many physicians who consider this objectionable have been influenced primarily by economic considerations. Since institutional facilities are limited and costly to expand, they believe hospital care should be reserved for people who really need it. Their point of view finds support in recent years' experience with home medical relief, showing that many diseases are treated just as efficiently and at far less cost in the physician's office and the patient's home.

Today unexpected confirmation of the argument for home and office treatment comes from the war-ridden countries of Europe. In London first-aid posts have been set up with the aid of the British Medical Association "with the intention of protecting casualty hospitals from a rush of minor and ambulant cases and providing early treatment in districts where the hospital is some distance away," to quote from the J.A.M.A.

In war or in peace, it seems sound policy to make the offices of private practitioners first-aid centers for their towns or neighborhoods. Even in large cities it is a waste to summon an ambulance for an injury which could be treated just as effectively by a nearby private practitioner. Entirely apart from military necessity, the development of the private practitioner's office as a local first-aid station would materially relieve the strain on our hospitals and lessen the medical expense attending upon slight accidents.

The above from the NEW YORK JOURNAL OF MEDICINE, which is published in the largest city in the world, is encouraging to us after fifteen years of preaching of this gospel and of practicing it also. Up-to-date offices with a few rooms to keep patients for observation and for the treatment of minor conditions is the most important step we can make in medical economics.

By this means more prompt and more efficient service may be given at less cost to the patient and at more profit to the doctor. This hits at the heart of our present medical problem. Doctors would do well to invest more in office equipment and each and every one should have a trained nurse on duty every day, one or more. Certainly in this machine age in which we live with a million injuries and a hundred thousand deaths every doctor's office should be a first-aid station prepared for far better than isetaoinetaoin prepared for far better service than first-aid in civil practice.

The Delta Medical Society held its semiannual meeting at Cleveland on October 11. The attendance was over a hundred. In the absence of Dr. G. Y. Gillespie, of Greenwood, Dr. W. W. Hall presided over the meeting in fine style. Dr. Frank Acree is the efficient secretary of this society. He is one of the most progressive men in internal medicine in the state. He had planned one of the best scientific programs we have listened to in quite a while. Dr. Euclid Smith, of Little Rock, was the out-of-state essayist. His discourse on rheumatism like all the other papers, was fine. The banquet was elaborate and well attended. Mrs. Hugh Johnson, of Vicksburg, President of the Woman's Auxiliary, was present and made a talk. She is one of the outstanding young women of the state in culture and in depth and breadth of education. Dr. H. L. Cockerham, of Gunnison, was master of ceremonies at the banquet. This is his calling. He urged all the doctors to attend the Southern Medical in Memphis Nov. 21-24, which holds forth by promise. The mayor of the thriving town was very generous and cordial to the doctors. Dr. L. B. Sparkman, of Cleveland, made a talk. He is one of the fine boys who wore the gray. It was good to see him and hear him talk. We will have more to say about him later. Dr. Hugh Gamble was elected president of the association for next year and Dr. Frank Acree, secretary. Dr. Acree, we understand, is to be on the program of the Northeast Mississippi at Tupelo on Dec. 12 reciprocating with Dr. R. D. Kirk of Tupelo, who was on the program at Cleveland.

Our most efficient secretary, Dr. A. J. Stacy, invited a number of the members of the Thirteen Counties Society to meet with him in Tupelo on the evening of October 19, for the purpose of discussing any question of interest looking to the betterment of the society during the next year. His invitations were extended to members living in the various sections included in the bounds of the society. Most of those who were invited were in attendance. It was a splendid get-together meeting and a keen interest in all matters medical was manifest. It was a matter of great regret that our president could not be present to favor us with his wise counsel. This is an innovation that we believe will be of service to the organization and it certainly will be encouraging to the secretary. Too much has been expected of our secretaries in the past. We have been most fortunate in that they have been wise, interested and active. But the time has come when the membership must hold themselves ready to help the officials in every possible way if the best interest of organized medicine is to be served. One of the numerous questions discussed was the resolutions recently adopted by the Thirteen Counties Society with reference to increasing the appropriation for the hospitalization of the indigent in the state and asking for a federal appropriation to match same. These resolutions together with the action taken by the committee appointed for that purpose, were carried in the October number of this journal. Dr. Wall called the meeting of the council in response to that request, but according to his personal letter to this writer, the council decided that for them to approve openly, and act upon the suggestion would run counter to position taken at Gulfport last May. But he added that the Council was sympathetic and, personally, its members favored the movement. We regret that this view was taken; for, in reality, there is no resemblance between the plan sought to be put over at the Gulfport meeting and the purposes of this movement. The plan defeated at Gulfport was to have the state association enter into a contract to render medical attention of all kinds to a definite few who are, in no sense, indigent, are favored by the government above all other farmers, in that they are loaned money in liberal amounts to buy livestock, supplies, farming implements of all kinds. These "clients" are selected on references that would get them credit at any bank in the community. Then doctors are asked to furnish medical care at a ridiculously low figure to these highly favored "clients" while the really indigent of both rural and urban communities are left solely on the charity of the doctors. Perhaps the doctors will continue to try to care for this large per cent of our population, as they have done in the past. But it is impossible for them to do so, and besides this, it is not right to expect them to do so. Neither is it right nor humane to allow these people to sicken, suffer and die without giving them needed medical attention. If this appropriation should be made (both state and federal) there would be ample funds provided to give adequate attention to all who need it. Besides we think that the plan suggested would preserve the relationship that does and should exist between the patient and the physician. Besides giving medical care to those who cannot provide it for themselves it will save the small hospitals from bankruptcy—it will compensate the rural doctor for much service for which he now receives nothing and will forestall regimentation of doctors and leave the choice of physician to the individual patient. But if this, or some similar, plan is not adopted, state medicine with all its hideousness is bound to come. It appears to us that now is the propitious moment. We feel sure that our governor-elect is committed to some forward step, and we feel, also, that the public opinion will sustain him. We have always favored prevention of sickness by any and all means available. We are proud of the work that our public health department has done and is still doing along this line. But if present trends continue, it is plain to be seen that encroachments upon curative medicine will soon follow. Let us think and act while there is yet and opportunity.

— G. S. B.

The Clarksdale and Six Counties Medical Society gave over their program to the Ole Miss Medical School on November 8. Dr. L. B. Austin, Rosedale, presided in the absence of the president, Dr. W. H. Williams, Tunica. The banquet, held at the Alcazar Hotel, included as fine a steak as we ever had the privilege of enjoying. We deeply appreciate our invitation to this meeting.

The following officers were elected for the coming year: Dr. L. B. Austin, president; Dr. Leroy Wilkins, Clarksdale, re-elected secretary. Dr. Wilkins is the able treasurer of the Mississippi State Medical Association.

To the members of the
Mississippi State Medical Association:

The Southern Medical Association, which holds its thirty-third annual session in Memphis, November 21-24 is the second largest in attendance of any in the United States. The program is broad, comprehensive, graced by an unexcelled fraternal spirit. Memphis is on her tiptoes to give the finest entertainment possible. Every member of the Mississippi State Medical Association is urged to attend this meeting.

W. H. Anderson, M.D.
Councilor for Mississippi.

The Mississippi Public Health Association, which holds its fourth annual meeting on December 6, 7 and 8 at the Robert E. Lee Hotel in Jackson, promises to be a very fine meeting. Dr. F. Michael Smith, Vicksburg, is the able president, assisted by Dr. J. A. Milne, Jackson, secretary-treasurer.

A very important meeting for urologists is the Southeastern Branch of the American Urological Association, which meets December 8 and 9 in Biloxi, Mississippi. Every man in this section should attend this meeting, which features some of the most outstanding urologists in the United States on its program.

The North Mississippi Medical Society had a fine meeting on October 25, put on by the staff from Mississippi State Sanatorium. Dr. C. M. Speck of New Albany is the able president.

We were grateful to our esteemed friend, Dr. W. A. Evans, of Aberdeen, for an invitation to Aberdeen November 4 for the celebration of the opening of the new library building, a $15,000 modern structure housing the personal library of Dr. Evans valued at $10,000, both a gift from him to Aberdeen and Monroe County. During the day Mrs. Herbert Evans placed on exhibit a noteworthy collection of flower paintings and portraits, which she included in an evening lecture on art. Mr. Herbert Evans also gave an illustrated talk on the San Blas Indians, using a colored movie camera. The people of Aberdeen are justly proud of Dr. Evans, and Mississippi takes an equal pride in claiming him as her best-known physician.

Dr. Everett W. Ryan is the new director of the Tallahatchie County Health Department, succeeding Dr. J. P. Ward, who was transferred to the Washington County Department.

MEDICINE IN THE NEWS

The American Medical Association and the National Broadcasting Company present timely topics from medical news of the week on Thursdays, 4:30 P.M., E.S.T., Blue Network—coast to coast—thirty weeks, opening November 2, 1939. Facts, drama, entertainment, and music.

Watch local newspaper radio announcements.

NEWS AND COMMENTS

HEALTH DEPARTMENT DEDICATED

Top—The handsome new home of the Lauderdale County Health Department, gift of the Commonwealth Foundation, dedicated October 4 by a distinguished group of Commonwealth, state, Meridian and county officials and members of the medical profession.

DR. N. C. KNIGHT
Director of the department

Side view of building.

Stressing the importance of public health work in Mississippi and pointing to the progress it has made in the last 10 years, high-ranking state, county and national medical officials, in ceremonies conducted in the auditorium, Wednesday formally dedicated Lauderdale county's new health department building, a gift of the Commonwealth Fund of New York.

With Dr. N. C. Knight, director of the department, as master of ceremonies, the principal speakers were Dr. C. L. Scamman of

DR. J. W. LIPSCOMB
President State Board of Health

DR. W. H. BANKS
Member State Board of Health, Fifth District

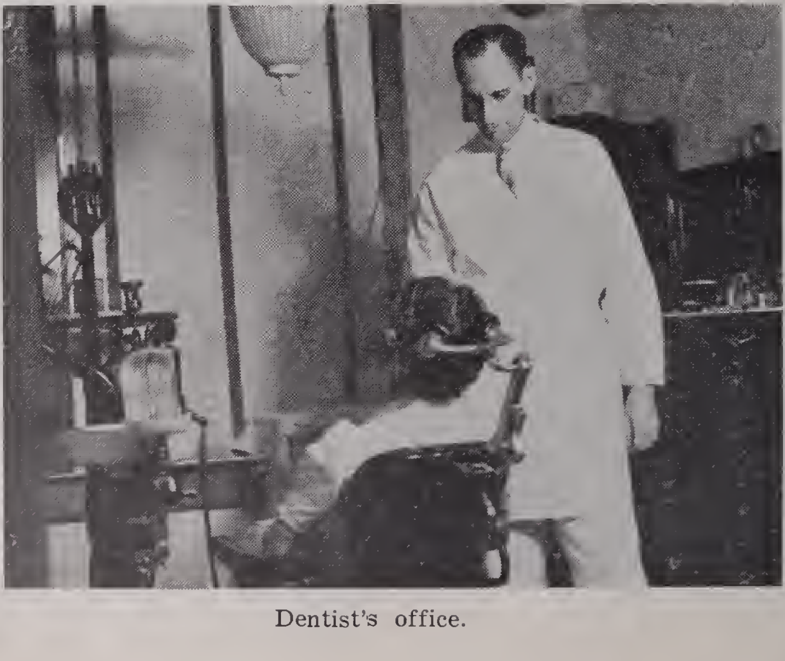
DR. W. R. WRIGHT
Dental member State Board of Health

New York, director of public health for the Commonwealth Fund, Dr. Felix J. Underwood, director of the state board of health, and Dr. J. P. Wall of Jackson, president of the state medical association.

Gov. Hugh White was scheduled to make the principal address, but at the last moment was unable to attend and telegraphed his regrets.

"The dedication of this building culminates for the Fund and for me a very pleasant association of 10 years," declared Dr. Scamman. "This building stands as a symbol of service—of service to humanity. It would not have been possible without the wholehearted cooperation the people of Lauderdale County have so generously given."

The New York physician pointed to the tremendous strides taken by public health in



Dentist's office.

Sterilizing room.

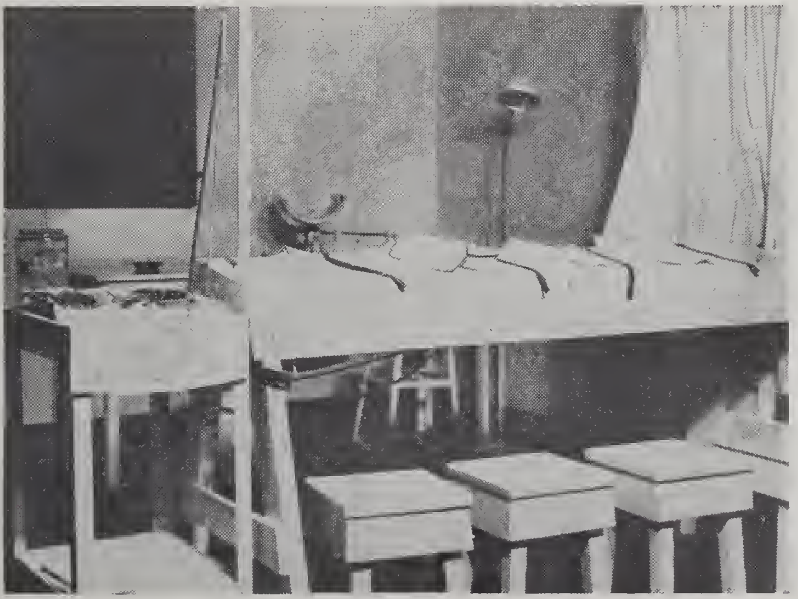
Mississippi in the last few years and outlined the Commonwealth Fund's interest in the work.

Dr. Felix J. Underwood of Jackson praised the equipment and facilities of the new building and cited the necessity of working together in harmony for the future progress of public health. "Five years from now," he declared, "if we could meet here again we would be astonished at the progress we will have made. We will go straight down the road together in harmony."

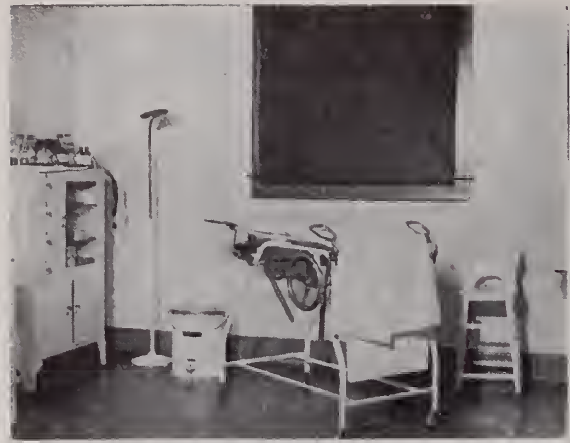
Dr. J. P. Wall praised the public health work and predicted even greater progress in the future. Paying a tribute to medicine in general, he declared, "The living look to it for succor; the dying call upon it for relief."

Mayor Extends Welcome

Mayor Clint Vinson welcomed the visiting doctors to Meridian and praised Dr. G. B. Galloway, former health department director, whom he credited with being instrumental in obtaining the building here.



Clinic room.



Clinic room.

Director's office.

Thomas L. Bailey, prominent Meridian legislator, contrasted the ceremonies here of dedicating a building for the preservation of life with the plans of "so-called leaders of people in Europe who at this moment are seeking means for the distruction of life."

In the absence of T. L. Johnson, president of the board of supervisors, who was unable to attend the dedication, Ross R. Bounds, supervisor from District One, expressed the board's appreciation to the Commonwealth Fund for the building.

Dr. Galloway cited the value of the new building to Lauderdale County.

The Rev. D. H. Griffin, pastor of the First Christian Church, delivered the invocation.

A number of important officials were introduced.—MERIDIAN STAR.

The new building for the Lauderdale County Health Department and the Mississippi State Training Center for Public Health Personnel was dedicated on the morning of October 4 in Meridian. This is perhaps the most modern and up-to-date public health plant in the South and is well equipped with the most modern and up-to-date equipment for public health work. The building was made possible by the aid of the Commonwealth Fund of New York City co-operating with the Mississippi State Board of Health, City of Meridian, and Lauderdale County, the total cost being something more than $50,000.

Following is the program of the dedication ceremonies:

PROGRAM

Wednesday, October 4th, 10 A.M.

Chairman, N. C. Knight, M.D.

1. Invocation—Reverend D. H. Griffin, Meridian.

2. Clarence L. Scamman, M.D.—Director, Di-

Clerk's office.

Secretary's office.

vision of Public Health, the Commonwealth Fund, New York City.

3. Felix J. Underwood, M.D.—Executive Officer, Mississippi State Board of Health.
4. T. L. Johnson — President, Lauderdale,
5. Clint Vinson—Mayor, Meridian, Miss.
6. Hugh White—Governor, State of Mississippi.
7. J. P. Wall, M.D.—President, Mississippi State Medical Association.
8. Thomas L. Bailey, Meridian, Mississippi.
9. Chairman's Address.

The ceremonies were held in the auditorium of the new building. The auditorium was filled to maximum capacity with interested people from Meridian, Lauderdale County, and other parts of the state. The seating capacity being only 300, more than 100 others who came to attend the dedication ceremonies were not able to be seated. During the day the building and its facilities were open for inspection and more than 600 people passed through the building that day.

The medical profession of the state was well represented, the following officials being present: Dr. J. P. Wall, president; Dr. W. H. Anderson, president-elect; Dr. T. M. Dye, secretary; Dr. LeRoy Wilkins, treasurer. Many other physicians attended from various parts of the state including members of the State Board of Health and the dean-elect, Dr. Maxwell E. Lapham, of Tulane Medical School.

Mississippi's training center for personnel has begun its activities operating in conjunction with the Lauderdale County Health Department and at the present time the maximum number of student nurses which can be accommodated, which is seven, are now taking a three-month period of field training preparatory to taking up public health nursing positions in other counties in the state. Although the field training of all types of public health personnel has not yet begun, it is anticipated that field training will be provided, beginning in the near future, for physicians, sanitarians, dentists, clerks, and other personnel who make up the personnel of the county health departments. It is intended that a thoroughly systematized and organized period of field training will be provided extending over a period of three months. This training center, no doubt, will mean that the public health personnel in the future will be much better equipped and qualified to carry on public health activities than they have been in the past.

Dr. N. C. Knight is the director of both the health department and the training center. The remainder of the staff of the health department and the training center at the present time consists of one supervising nurse, an assistant supervising nurse, five staff nurses, one bookkeeper and statistician, one secretary, two sanitary officers, one dentist, and one part-time meat inspector. It is anticipated that in the very near future, the personnel will be increased to the extent of providing an assistant health officer, and an additional sanitary engineer.

DR. HARVEY F. GARRISON

Dr. Harvey F. Garrison, Sr., Jackson, Miss., Chairman of "Off the Record" meeting of presidents, presidents-elect, secretaries and editors of the sixteen states composing the Southern Medical Association. Dr. Garrison conceived the idea of this meeting and organized it in Baltimore three years ago. The fourth session will be held during the coming meeting of the Southern on November 21 at six P.M. at the Peabody Hotel. This "club of officials" has no officers except the chairman. Dr. Garrison has presided from year to year by unanimous request, and will this year. Independent effort in practice is gradually giving way to co-operative practice, an idea gradually becoming imperative as the science of medicine marches at a more rapid stride and as its field of human service multiplies in volume. With the increased opportunities of the profession its social and economical problems have also been multiplied, and these must be met and solved by united effort. It was no doubt the urge of responsibility Dr. Garrison felt while president of the Mississippi State Medical Association that gave birth to this meeting of officials which has proved to be so popular and so helpful. A free, frank, sincere open discussion of our problems seems to be what we need at this time. Personally we have attended two of these meetings and they have been very beneficial to us. We are very grateful to Dr. Garrison for his creative and productive thinking. He has proved his worth in organized medicine over and over. In his specialty of pediatrics his ability is recognized in Mississippi, in the Southern states, and nationally. Mississippi has one of the best hospitals for treating tuberculosis in the nation. Dr. Garrison was a strong factor in bringing it into existence. He served well on our State Board of Health for many years and on the council. He has always been popular with his local society and has pushed it forward with his constructive thinking and his fine diplomacy. His influence for good has been felt in the Southern Medical Association as an active member and as councilor. He has and is serving well as a delegate to the American Medical Association. As a constructive, diplomatic organizer and leader in the field of medical service, he has no superiors and but few equals. We appreciate his thoughtfulness in giving us the "Off the Record" association of officials which has proved so beneficial in helping to unite the efforts of the entire profession in solving our medical problems.

Dr. A. F. Cooper, secretary of the Mid-South Postgraduate Medical Assembly, announces that the program is complete with the addition of:

Dr. Roy W. Scott, Cleveland, Ohio, Medicine.

Dr. M. B. Visscher, Minneapolis, Minn., Physiology.

Dr. Reginald Fitz, Boston, Mass., Internal Medicine.

Keep in mind the Mid-South in February. It furnishes the meat in the cocoanut for the busy man who wants a rapid review in the entire field of medicine by men of authority.

DR. E. C. PARKER

Dr. E. C. Parker, Gulfport, a past president of the Mississippi State Medical Association, who was elected president of the Gulf Coast Clinical Society at its annual session on October 26-27 in Mobile, Ala. Dr. Parker is one of Mississippi's leading surgeons and has been very active in organized medicine for many years. The Gulf Coast Clinical Society is composed of Mississippi, Alabama, and Florida. We congratulate Dr. Parker on this outstanding honor.

Items of Interest to Officers and Past Officers of the Southern Medical Association

Dr. Walter E. Vest, Huntington, West Virginia, President of the Southern Medical Association, had conferred on him the honorary degree of Doctor of Science by the Medical College of Virginia, Richmond, at the commencement exercises early in May. Dr. Vest is an alumnus of the Medical College of Virginia, class of 1909.

Dr. Fred M. Hodges, Richmond, Va., Past President (1936) of the Southern Medical Association, was elected President of the American College of Radiology at the annual meeting in St. Louis the middle of May.

Dr. E. L. Henderson, Louisville, Ky., member of the Council of the Southern Medical Association, was elected Trustee of the American Medical Association at the annual meeting in St. Louis the middle of May. Dr. Henderson succeeds Dr. Allen H. Bunce, Atlanta, Georgia, who having served the constitution limit, was not eligible for re-election.

Dr. Alphonse McMahon, St. Louis, Missouri, member of the Council of the Southern Medical Association and President of the St. Louis Medical Society, was elected Vice-President of the American Medical Association at the annual meeting in St. Louis the middle of May.

* * * *

Dr. Edward C. Ellett, Memphis, received the Leslie Dana Medal for "outstanding achievements in the prevention of blindness" at a dinner honoring him in St. Louis October 14. The inscription on the 1939 medal refers to Dr. Ellett as "inspiring teacher, skilled surgeon, understanding and sympathetic clinician and friend." The award was made for "long meritorious service in the conservation of vision in the prevention and cure of diseases dangerous to the eyesight, research and instruction in ophthalmology and allied subjects, social service for the control of eye diseases, and special discoveries in the domain of general science or medicine of exceptional importance in conservation of vision."

We congratulate Dr. Ellett and point with pride to the fact that we have an oculist of international reputation in easy reach of most of our readers.

DR. HUGH GAMBLE

Dr. Hugh Gamble, Greenville, who was elected president of the Delta Medical Society at its last semi-annual meeting in Cleveland on October 11. Dr. Gamble is a former president of the Mississippi State Medical Association and of the Mississippi Hospital Association also. His ability as a surgeon is recognized throughout the country. He is active in medical organization and as a citizen is interested in every good cause.

ANNUAL MEETING GULF COAST CLINICAL SOCIETY

THURSDAY, OCTOBER 26

Auditorium, Battle House

2:00 P.M.: Call to order, President J. H. Dodson.

Invocation, Dr. A. J. Dickinson, Pastor First Baptist Church.

Address of Welcome, Hon. Cecil Bates, Mayor of Mobile.

Address of Welcome, G. O. Segrest, President, Mbile County Medical Society.

2:30 P.M.: "The Doctor's Role in Human Affairs."—W. H. Anderson, Booneville, Mississippi, President-elect Mississippi State Medical Association.

2:45 P.M.: Address: M. S. Davie, Dothan, Alabama, President, Alabama State Medical Association.

3:00 P.M.: Address: J. S. Turberville, Century, Florida, President-elect Florida State Medical Association.

3:15 P.M.: "Neuropsychiatric Diagnosis."—H. Randolph Unsworth, New Orleans, Louisiana. Psychiatrist.

"Various Suggestive Points Pertaining to Cancer of the Face."—V. P. Blair, St. Louis, Missouri. Plastic Surgeon.

"Hypertensions of Pregnancy."—James R. McCord, Atlanta, Georgia, Professor of Obstetrics, Emory University.

(Refreshments, Barbecue and Dance given by courtesy of Van Antwerp-Aldridge Drug Company of Mobile, Alabama).

* * *

FRIDAY, OCTOBER 27

9:00 A.M.: "The Importance of Biopsies."—Clayton E. Royce, Jacksonville, Florida. Pathologist.

"Upper Respiratory Infections in Children."—Edward Clay Mitchell, Memphis, Tennessee. Pediatrician.

"Some Restorations About the Face."—V. P. Blair, St. Louis, Missouri. Plastic Surgeon.

"Pain of Extra-Abdominal Origin."—J. H. Musser, New Orleans, Louisiana. Professor of

Medicine, Tulane University.

12:30 to 2:00 P.M.: Round Table Luncheon-Conferences. Tickets were purchased at Registration Desk at 75c.

1. "Diseases of the Breast."—Leader, George T. Pack.

2. "Puerperal Sepsis."—Leader, James R. McCord.

3. "Chronic Deficiency States."—Leader, J. H. Musser.

2:15 P.M.: "Diagnosis and Treatment of Head Injuries."—Edgar F. Fincher, Atlanta, Georgia. Assistant Professor, Neuro-Surgery, Emory University.

"The Treatment of Coronary Artery Disease."—Morris M. Weiss, Louisville, Kentucky. Cardiologist.

"Sulfanilamide and Related Chemicals in the Treatment of Gonorrhea and Other Urinary Infections.—Edgar G. Ballenger, Atlanta, Ga. President, American Urological Association.

"The Treatment of Tumors of the Colon and Rectum."—George T. Pack, New York City. Surgeon.

6:15 P.M.: Adjournment.

7:30 P.M.: Annual Banquet, Battle House.

Guests of the Mobile County Medical Society.

Guest Speaker—Ex-Senator J. Thomas Heflin, Lafayette, Alabama.

POSTGRADUATE COURSE IN UROLOGY AT BILOXI DECEMBER 8 AND 9

The Southeastern Branch of the American Urological Association will hold its Sixth Annual Meeting at the Hotel Buena Vista, Biloxi, Miss., December 8 and 9. This organization has a membership of 220 in the states of Alabama, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina and Tennessee.

One of the purposes of this organization is to have its programs so arranged as to form a postgraduate course for the benefit of the general practitioner of medicine. There will be no registration fee. Each physician in Mississippi is invited and urged to attend this meeting. The program will begin at 12 o'clock noon Friday, December 8, and continue through Saturday morning until noon. The following men are to be present and discuss subjects listed below.

Dr. Roy Henline, New York City, Associate Professor, Cornell: "Prostatic Calculi."

Dr. Reuben Flocks, Iowa City, Assistant Professor, Iowa State: "Urinary Calculi."

Dr. Charles M. McKenna, Chicago, Ill., Professor, University of Illinois: "The Correction of Some Anomalies of the Genitourinary Tract in Children, with Special Reference to the Transplantation of the Ureter into the Large Bowel for Bladder Exstrophy."

Dr. E. G. Crabtree, Boston, Mass., Professor at Harvard: "Hypertension in Relation to Kidney Disease."

Dr. Roger W. Barnes, Los Angeles, California, Professor, Medical Evangelists: "Carcinoma of Prostate."

Dr. Edward W. Cook, Mayo Clinic, Rochester, Minn.: "Urinary Infections."

Col. J. E. Ash, Curator Medical Corps, U. S. N., Washington, D. C.: "Bladder Tumors."

Dr. George R. Livermore, Memphis, Tenn., Professor at Tennessee: "Carbuncle of the Kidney."

Dr. Edgar Burns, New Orleans, La., Assistant Professor at Tulane: "Prostatic Obstruction in Negroes."

BOOK REVIEW

THE ART OF ANESTHESIA, by Paluel Flagg, M.D., visiting anesthetist to the Manhattan Eye and Ear Hospital, New York City, published by J. B. Lippincott Co., Philadelphia, is certainly worth while. If there be a real art in the practice of medicine, the administration of an anesthetic is the chief one. Dr. Flagg certainly treats it in this fashion.

His introductory chapter on the history of anesthesia is very instructive. His discussion on ether embraces the fundamental principles of all inhalation anesthesias. He discusses chloroform fully and points out its dangers in no uncertain terms. The author not only explains fully and in detail the procedure in using the physical equipment and the nature of each drug used, but also indicates the psychological part the anesthetist can play in assuring the patient and helping to keep him free of fear. Special methods for brain surgery and thoracic surgery are discussed fully. The book is readable and is most comprehensive for its size. One of the very finest chapters in the book is the "Point of View of the Patient." Every person who gives an anesthetic would do well to read this chapter over and over. Neither operator nor anesthetist can afford to be without this book, THE ART OF ANESTHESIA.

Mississippi State Medical Association

Organized in 1867 **Next Meeting: May, 1940, Jackson.**

OFFICERS

President—J. Percy Wall, Jackson
President-Elect—W. H. Anderson, Booneville
Vice-Presidents—Hugh Johnston, Vicksburg
T. E. Ross, Hattiesburg
J. E. Ellis, West Point

Secretary—T. M. Dye, Clarksdale
Editor—Lawrence W. Long, Jackson
Historian—Leon S. Lippincott, Vicksburg
Speaker—J. Rice Williams, Houston
Treasurer—E. Leroy Wilkins, Clarksdale

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Second District—L. L. Minor, Rt. 4, Memphis, Tenn.
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Fourth District—J. K. Avent, Grenada
Fifth District—Lawrence W. Long, Jackson
Sixth District—H. Lowrey Rush, Meridian
Seventh District—J. P. Culpepper, Hattiesburg
Eighth District—W. H. Frizell, Brookhaven
Ninth District—D. J. Williams, Gulfport

COMMITTEES

Program:
Surgery—Edwin Benoist, Natchez
Hygiene and Public Health—E. W. Noblin, Sr., Jackson
Medicine—Ira Seale, Holly Springs
E. E. N. and T.—E. Staton, Columbus

Anti-Barbiturate:
J. M. Acker, Aberdeen
J. Gould Gardner, Columbia
L. S. Lippincott, Vicksburg
B. J. Marshall, Whitfield
E. LeRoy Wilkins, Clarksdale

Public Policy and Legislation:
Felix J. Underwood, Jackson
Henry Boswell, Sanatorium
W. H. Anderson, Booneville

Charity Hospitals:
J. C. Culley, Oxford
W. W. Crawford, Hattiesburg
John Darrington, Yazoo City
B. B. Martin, Vicksburg
H. R. Shands, Jackson

COMPONENT SOCIETIES

County Society	President	Secretary-Editor	Time of Meeting
dams	James C. Rice, Natchez	Fred Geisenberger, Natchez	Third Tues. 7:30 p. m.
mite	W. S. Stewart, Osyka	H. A. Butler, Liberty	Second Thur. 7:30 p. m.
entral Medical	F. L. VanAlstine, Jackson	H. C. Ricks, Jackson	First Tue. 7:30 p. m, Omit July and Aug.
laiborne		G. W. Acker, Port Gibson	
larksdale and Six	W. H. Williams, Tunica	E. Leroy Wilkins, Clarksdale	Fth. Wed. March and Sec. Wed. N
larke-Wayne	W. P. Gray, Waynesboro	Albert Hand, Shubuta	
oahoma	D. H. Griffin, Clarksdale	Julius L. Levy, Clarksdale	
oast Counties	F. O. Schmidt, Ocean Springs	D. L. Hollis, Biloxi	
elta Medical	G. Y. Gillespie, Greenwood	F. M. Acree, Greenville	Sec. Wed. Apr. and Oct. 2 p. m.
eSoto	Henry M. Wadsworth, Hernando	L. L. Minor, Memphis, Rt. 4	
ast Mississippi	C. H. Harrison, Philadelphia	Guy T. Vise, Meridian	
ranklin	C. A. Everett, Bude	L. Costley, Meadville	
ssa-Shar-Warren	Walter E. Johnston, Vicksburg	Alston Callahan, Vicksburg	
efferson	C. R. Senter, Byhalia	Herbert Phillips, Holly Springs	Second Thursday
arshall		W. T. Harper, Fayette	
ewton	W. L. Henton, Decatur	Dudley Stennis, Newton	
orth Mississippi	C. M. Speck, New Albany	A. H. Little, Oxford	Third Wed., Jan. Apr. Jul. Oct.
ortheast Miss.	J. W. Lipscomb, Columbus	A. J. Stacy, Tupelo	Sec. Tue., Mch. Jun. Sep. Dec.
ike	E. M. Givens, McComb	T. Paul Haney, Jr., McComb	First Thursday
ontotoc	J. H. Windham, Ecru	E. B. Burns, Pontotoc	
outh Mississippi		Van C. Temple, Hattieburg	
unflower		H. B. Cottrell, Indianola	
allahatchie	G. Lacy Biles, Sumner	J. E. Powell, Charleston	
ate	W. D. Smith, Senatobia	J. S. Eason, Coldwater	Second Wednesday
op.-Law.-Lin.-Wal.	R. S. Savage, Brookhaven	R. B. Zeller, Hazlehurst	Sec. Tue. Mar. Apr. Jun. Dec.
ebster	E. T. Arnold, Bellefontaine	H. K. Curry, Eupora	
ilkinson	C. E. Catchings, Woodville	E. M. Butler, Centerville	
inona District		S. B. Caruthers, Grenada	

Interpreting Medical Literature

STAFF OF REVIEW

Dermatology—James G. Thompson, Jackson.

Eye, Ear, Nose and Throat—Alston Callahan, Vicksburg.

Obstetrics and Gynecology—J. W. Lucas, Greenwood.

Orthopedics—Thomas H. Blake, Jackson.

Pathology and Clinical Pathology—John C. Henthorne, Jackson.

Pediatrics—Harvey F. Garrison, Jackson.

Public Health—Felix J. Underwood, Jackson.

Radiology and Roentgenology—Karl O. Stingily, Meridian.

Surgery—John Culley, Oxford.

Urology—Temple Ainsworth, Jackson.

Discussion and comments are invited.

DERMATOLOGY

Some months ago your attention was called to the fact that certain syphilologists were approaching the treatment of early syphilis from a different angle. The work was given an excellent preview, so to speak, by one of the reporters on the NEW YORK TIMES. This in itself was rather unusual in that the article was well written, and the treatment was very accurately described. Today a complete report covering a period of five years is given in the A. M. A. Journal, page 1208, September 23, 1939, "Massive Dose Chemotherapy of Early Syphilis by the Intravenous Drip Method," by Harold Thomas Hyman, M.D., Louis Chargin, M.D., John L. Rice, M.D., and William Leifer, M.D., with an introduction by Dr. John L. Rice.

If this method of treatment proves itself clinically, the whole treatment of this disease will be completely revolutionized. The time of treatment will be reduced from months and years to days. Ehrlich attempted completely to sterilize the patient by giving one large dose of arsphenamine, but was forced to abandon the idea due to the toxic reactions that occurred.

The authors think that their results are as good, or better, than those obtained by the best syphilologists under the best of conditions. They do not feel that five years is long enough time for complete observation. They feel that the number of toxic reactions can be reduced. Due to the development of febrile reactions, toxicodermas, neuritides, and to the development of hemorrhagic encephalitis in one case, the authors do not feel that this method of treatment should be attempted routinely in clinics until further work can be done on the prevention of untoward reactions.

This article is well worth reading.

— J. G. T.

PATHOLOGY

PREPARATION OF UNIVERSALLY COMPATIBLE ASCITIC FLUID FOR TRANSFUSION, Choisser, R. M., and Ramsey, E. M., Am. J. Clin. Path., 9:545-548 (Sept.) 1939.—

In an experimental study using dogs as laboratory animals, it was demonstrated that ascitic fluid could be rendered safe for intravenous use without cross matching with the animal's blood.

The efficacy of human ascitic fluid is restoring and maintaining blood pressure after artificially induced shock had been previously demonstrated, but it was necessary to type the recipient's blood with the ascitic fluid because of red cell agglutinins present in the fluid in high titre. Removel of red cell agglutinins accomplished by electrodialysis to remove globulin and adjustment of the pH.

SILENT, SO-CALLED PRIMARY TUBERCULOSIS OF THE SPLEEN, Fox, H., Am. J. Clin. Path., 9:549-553, (Sept.) 1939.—

Three cases are briefly reported from the University of Pennsylvania Hospital. In none of the cases was the diagnosis made prior to operation. The pathologic diagnosis was made on the histologic appearance on the lesions. Acid fast bacilli were not demonstrated. Weight loss, failing health, and splenomegaly were the prevailing symptoms. In two cases the preoperative clinical diagnosis of splenic anemia was entertained. Ine one case there was thrombocytopenia.

The most important clinical features of "silent" tuberculosis of the spleen as demonstrated by cases previously reported in the literature are absence of clinically demonstrable tuberculosis in the body, the association with blood dyscrasias under the guise of polycythemia and Banti's syndrome, and the unreliability of the tuberculin test.

EFFECT OF INGESTED SODIUM CHLORIDE ON CONCENTRATION OF HEMOGLOBIN, Sheftel, A. G., Am. J. Clin, Path., 9:554-557 (Sept.) 1939.—

Variations in the hemoglobin content of the blood at different times of day in normal subjects have been reported. Some investigators have reported a drop of 26 per cent. It has been discovered that much of this marked variation of hemoglobin content of the blood is due to increased blood volume following ingestion of excessive amounts of sodium chloride.

In this study twenty healthy subjects ingested from 5 to 15 grams of sodium chloride in 500 cc. of water. A drop in the hemoglobin was 11.2 per cent. The maximum fall was 19 per cent and the minimum 2 per cent. The maximum drop occurred between three and four hours after ingestion of salt, and after five hours the hemoglobin began to return towards the initial level.

Since the ingestion of salt in hypertonic solution is followed by a fall in concentration of hemoglobin, it would be of interest to clinicians to ascertain whether the patient ingested appreciable amounts of salt with food, from three to six hours prior to determination of hemoglobin.

— J. C. H.

PEDIATRICS

Late Cerebral Hemorrhages in the Newborn, Leif Salomonsen, Acta Paediatricia, 24, 442, 1939.—

"The writer found signs of hemophilia expressed by bleeding from other organs (nose, navel, fissures of the skin, melena), with or without a prolonged coagulation time (7 to 22 minutes, in 13 out of 19 newborn infants who showed symptoms of cerebral hemorrhage, clinical and/or autoptic, after a free interval since birth at least 48 hours; he observed these anomalies in none of the 70 infants examined who showed symptoms of an intracranial hemorrhage within the first 48 hours after birth. In no less than 11 out of the 13 cases of the first group, the general hemorrhages and the prolongation of the coagulation time co-existed, and in four of the six others, in which the intracranial hemorrhage seemed to be an isolated event, the coagulation time was not investigated.

By daily determinations of the coagulation time, the American author Rodda has demonstrated that this time is often physiologically prolonged in the first week of life. In 100 healthy newborn infants, the writer could confirm this finding between the second and fifth days, middle values of 5.3, 5.7, 5.2, and 4.6 minutes (the normal value is around four minutes). This transient phenomenon is probably an expression of one of the many adjustments the newborn organism has to make. However, increases of the magnitude observed in the infants with intracranial hemorrhages, often after the fifth day, must be regarded as pathologic, all the more if they are accompanied by bleeding. The American authors unite these bleedings with or without a prolonged coagulation time in a group of 'hemmorrhagic diseases of the newborn.' Considering the prolonged coagulation time and the resemblance of the hemorrhages to hemophiliac hemorrhages, the name "hemophilia neonatorum transitoria," or "hemophilia temporaria neonatorum" is more to the point.

"The therapeutic conclusion is that, if a newborn infant, after a distinct free interval at least 48 hours after birth, shows symptoms of intracranial hemorrhage, an energetic antihemophiliac treatment should be instituted. The writer has observed the instant arrest of an umbilical hemorrhage upon the transfusion of 15 to 20 cc. of blood; the same effect of a transfusion or injection of blood should be expected in the case of an intracranial hemorrhage.

"The intracranial hemorrhages of the newborn are divided into two distinct categories, namely, hemorrhages due to a birth trauma, and hemorrhages on a hemophiliac basis."

Comment

There is no subject of greater importance to physicians who are practicing obstetrics, pediatrics, or general medicine than that of cerebral hemorrhages in the newborn. The subject of the above abstract should be of universal interest to every doctor in Mississippi.

— H. F. G.

PUBLIC HEALTH

Results of Sulfapyridine Therapy in 400 Cases of Typed Pneumonia, D. Sergeant Pepper, Harrison F. Filippin, Leon Schwartz and John S. Lockwood, Am. Jour. Med. Sciences, Vol. 198, pp. 22-35, July, 1939. (See also International Med. Digest, v. 35, pp. 136, Sept., 1939, abst.)—

Four hundred cases of typed pneumococcic pneumonia were treated with sulfapyridine using the dose schedule of G. M. Evans and W. F. Gaisford—an initial dose of 2 grams by mouth followed by one gram every four hours until a total of 25 grams had been given. When the treatment was started more than five days after onset, a total of 15 grams was given. The authors found no correlation between the dosage and the amount of the drug found in the blood nor the clinical results. Concentration of the drug in the blood varied from 1.2 to 18 milligram per 100 cc. of blood.

Of the 400 cases treated, 28, or 7 per cent, died. Types I to VIII and Type XIV were responsible for 84 per cent of the 400 cases. Mortality by types varied considerably as follows:

Type I, with 104 cases of which 5.8 per cent died.

Type III, with 67 cases of which 16.4 per cent died, primarily in aged and debilitated cases.

Mortality in the group of 400 cases increased with increase in age. Only 41 patients of the Type III series (the type most frequently causing pneumonia in senile patients) showed a positive blood culture and in this group the mortality was 11, or 22 per cent.

Within 24 to 36 hours after medication was started there was usually a marked decrease in temperature with definite improvement in toxemia symptoms. Temperature fell by crisis in most cases. Total white cell count decreased markedly during first few hours of treatment.

In the series of cases there were 5 cases which developed empyema, 11 had pleural effusion, 3 had phlebitis, 2 otitis media, and 2 meningitis.

Nausea and vomiting was the most common drug reaction, and this occurred usually during the first 24 hours. Vomiting was severe enough in 25 cases to cause stopping the drug, but not before 12 grams were administered. Another group of 144 cases had vomiting to such a degree as to cause distress but not enough to justify stopping the drug. Vomiting did not seem to interfere with absorption of the drug, and there seemed to be no correlation between the severity of vomiting and amount of drug in the blood.

Measures which seemed to improve tolerance for the drug were: (1) mixing drug with water, fruit juice, or milk; (2) administration of small amount of sodium bicarbonate or aluminum hydroxide solution after ingestion of drug; (3) temporary omission of treatment for 1 or 2 doses; (4) use of barbiturates and chloral hydrate; (5) introduction of sodium chloride and dextrose intravenously; and (6) use of nicotinic acid in daily doses of 300 to 450 mg.

Marked leukopenia occurred in two of the cases, and in several patients there was a drop of 2 million in red blood count and a 40 per cent reduction in hemoglobin in several cases. Twelve per cent of the cases had cyanosis, and drug fever was diagnosed in two cases.

A group of cases which could not be typed, some of which were the result of streptococci, staphylococci, and other organisms were also treated with sulfapyridine, but evaluation of results of treatment was impossible.

Conclusions of the authors were that sulfapyridine is an effective therapeutic agent in treating pneumococcic pneumonia. In no instance was death believed to be due to this drug. No patients were encountered who could not tolerate a therapeutic dose of the drug.

(Abstracted by A. L. Gray, M.D., October 18, 1939).

THE PROBLEM OF BACILLARY DYSENTERY, Felson, Joseph, The American Journal of Tropical Medicine, Vol. 19, 4 (July) 333-343.—

ABSTRACT

by Maud Gober
State Hygienic Laboratory
Mississippi State Board of Health

The surveys given in this paper based on recent clinical reports indicate a rather wide prevalence of bacillary dysentery and with a more frequent recognition of the disease, there has also occurred a better understanding of many obscure chronic intestinal infections. Careful epidemiological, laboratory and clinical studies reveal that a surprisingly high proportion of cases of so-called colitis, enteritis or enterocolitis are due to bacillary dysentery and a study of the United States Public Health reports revealed that as the cases of bacillary dysentery increased the incidence of unclassified dysentery fell.

It has been conceded by some investigators that bacillary dysentery already far exceeds typhoid as a public health problem. In the United States from 1933-37 there were 79,042 cases of dysentery reported for 21 states with a yearly average of 15,808 and a ration of reported deaths of 17.8 per cent. Of these 21 states, Mississippi had far the greatest number of cases with a total of 47,172 from 1933-1937, a yearly average of 9,034, the highest incidence occurring during the summer months and in some states as late as September and October.

The limitations of these statistical studies are indicated by the prevalent opinion in almost every country that the reported figures represent but a part of the actual incidence of bacillary dysentery. Such general agreement merely stresses the gravity of the situation and only by a correlation of effort supplemented by a centralization of knowledge dealing with current advances can the successful control of bacillary dysentery be accomplished. To this end the International Dysentery Registry has been establishing for the study of infectious diarrheas with hope that the scope of activity will eventually include clinical and laboratory research, epidemiological and statistical studies, educational and diagnostic facilities.

SURGERY

CASE REPORT: DERMOID OF THE FRONTAL LOBE

W. K. Purks, Vicksburg, Miss.

E. T., a white male, age 10 years, was first seen on August 1, 1939, in consultation with Dr. W. H. Parsons. The parents referred the child because of faulty development, both mental and physical.

His family history was entirely negative.

Past History: He was a full term baby, born following a rather prolonged though complicated spontaneous delivery. In early life he had uncomplicated whooping cough, chicken pox and tonsillectomy. All other facts relative to his past are pertinent parts of his present illness and will be so detailed.

Present Illness: Shortly after birth, his parents noted a tumor in the frontal region. The child was studied by many physicians and after much discussion, it was decided wise to excise the tumor. The tissue examined by a technician was reported as showing lipoma. At age two or three months, the child began having weak spells and x-ray of his chest by the same technician was said to have shown enlarged thymus gland. X-ray therapy apparently gave relief. In early life, also, the child had unexplained convulsive seizures. More recently he has had no convulsive seizures, but almost daily at least one episode of momentary lapse of intention, epigastric pain and marked pallor, thought to have been the equivalent of a petit mal.

Recently, that is during the past several years, he has been studied by many additional physicians, but all gave a hopeless prognosis and apparently little thought to the child's problems. One physician is said to have fluoroscoped his skull and found it negative.

Throughout life, the child's development has been poor. He began walking at age two years, was slow to gain speech and even now does not talk well. He has not attended school. In spite of four years in kindergarten, he was still unable to enter grade school. Recently a series of injections of antuitrin-S had resulted in some improvement in previously testicles.

Physical Examination: Showed an undeveloped, but fairly nourished child. His facial characteristics indicated an age much in excess of his body build. The general picture was that of a pituitary dwarf. In the midline frontal region, there was a vertical scar of previous surgery. The scar was densely adherent to the underlying bone. There was no bruit over the skull. My examination showed the eyes to be normal in all respects. These facts and normal visual fields were confirmed later by Dr. Callahan. The teeth were poorly developed, the central upper teeth had been badly out of line by thumb-sucking. The general examination was otherwise negative and likewise a neurologic examination was negative except for the evidence of poor mentality.

My original clinical impression was that the child presented the characteristics of pituitary dwarfism, but that in view of the questionable tumor mass in the frontal region, an intracranial mucocele arising from the frontal sinus was a possibility.

Subsequent routine laboratory procedures showed no abnormality. The blood calcium was at the upper limits of normal, 11 milligrams per cent. Blood sugar was 83 milligrams per cent. X-ray of the skull was reported as follows: "Stereolateral, P. A. and A. P. films of the skull show a vault of average thickness and without signs of increased pressure. There is a large mass of calcification lying in the anterior half of the skull. Its appearance in the P. A. view is that of a cyst and the walls of such a cyst are also indistinctly outlined in the lateral view. This area of calcification is apparently within the brain substance near the midline and slightly anterior to the usual position for suprasellar cysts. On the whole, however, this appeared to be distinctly the most likely possibility."

At operation performed on August 23, 1939, a large mass in the frontal lobe, crossing the falx from right to left and densely adherent to all adjacent structures was demonstrated. Portions of the tumor were removed and pathologic study showed the tumor to be a dermoid. I quote Dr. J. C. Henthorne's pathologic report: "I am unable to reconcile adipose tissue, glial tissue and psammoma bodies except with dermoid."

The child survived the operative procedure and with continued glandular therapy is somewhat improved.

Ole Miss Medical News

ROWLAND MEDICAL LIBRARY

Private libraries amounting to 2000 volumes were given to the medical library during the summer of 1939. In a period of two years the library has grown from 3600 to 8000 volumes. This makes a total increase of 4,400 volumes since 1937. The material is being housed in steel stacks. A new stack room with a capacity of 3000 volumes was opened in October. From 100 to 150 new books and monographs are added to the library each year through the Rowland Fund. The source of this fund is the yearly contribution of physicians interested in the medical library.

One feature of the library is the extension department. Both books and journals may be borrowed unless they are in use by the students or the faculty of the medical school. The postage rate on books makes it possible to borrow and return the average book at a cost of 6c. Requests should be accompanied by stamps to cover postage (3c per book).

NEW JOURNALS

ANNALS OF INTERNAL MEDICINE
ARCHIVES OF OPHTHALMOLOGY
ARCHIVES OF OTOLARYNGOLOGY
JOURNAL OF NEUROPHYSIOLOGY
PSYCHOSOMATIC MEDICINE

NEW BOOK:

Bailey: "Intracranial Tumors." 1939.

Barber: "Physiology for Pharmaceutical Students." 1937.

Beckman: "Treatment in General Practice." 1938.

Bivin: "Pseudocysis." 1937.

Campbell: "Operative Orthopedics." 1939.

Cowdry: "Problems of Ageing." 1939.

Diethelm: "Treatment in Psychiatry." 1936.

Henry: "Essentials of Psychiatry." 1938.

Hess: "Collected Writings." 1936

Jackson: "Experimental Pharmacology." 1939.

Miller: "Applied Anatomy." 1938.

Morton: "The Human Foot." 1937.

McMurrich: "Leonardo DaVinci." 1930.

McNally: "Medical Jurish Prudence." 1938.

Maxon: "Spinal Anesthesia." 1938.

Matheson: "Epidemic Encephalitis." 1939.

Long: "Clinical and Experimental Use of Sulfanilamide." 1939.

Solomon: "Pharmacology, Materia Medica and Therapeutics." 1938.

PUBLIC HEALTH NEWS

The Division of Preventable Diseases of the State Board of Health advises that the number of cases of diphtheria reported monthly during the period from March through September indicates that this disease is likely to be more prevalent during the next few months than it has been during the past two or three years for the same months. The following table showing the average number of cases reported by months in Mississippi during the 5-year period, 1934-1938, and the number of cases reported by months in 1939 from March through September, may be of interest to physicians throughout the state:

	Monthly av. 5-year period 1934-1938	1939
March	22	34
April	24	21
May	19	30
June	18	25
July	30	44
August	59	90
September	103	95

In each of the seven months during 1939 from March through September, with the exception of two, it will be noted that the cases exceeded the 5-year monthly average. Since some of this increase may be attributed to the fact that various sections of the state harbor a large number of diphtheria carriers, physicians are urged to encourage immunization of all children who are not protected. More than 3,000 children have died of diphtheria in Mississippi since 1920. It is the private physician's responsibility and privilege to encourage in every way possible diphtheria immunization of all children under his care.

* * * *

Dr. A. L. Gray, Director of Preventable Disease Control, disclosed in a review of the department's activities that a total of 135,430 blood tests for syphilis were made in Mississippi during the past fiscal year. Of this number 51,181 were positive and 84,249 negative. The tests were made in the 111 clinics of the state, which are conducted by various county health departments having full-time venereal disease control programs. Treatments were administered to indigent cases, totaling 235,920 doses of bismuth or mercury and 215,828 doses of arsenicals. Mississippi, which has one of the heaviest syphilis loads of any state in the union is showing good progress in its program of venereal disease control and is working hard to do its part in the national campaign. The fine co-operation of the medical profession and financial aid from the U. S. Public Health Service, the local boards of supervisors and state legislature has helped greatly to expand the program. However, in view of the high incidence of syphilis in Mississippi, it is realized that the job of bringing it under control has just begun.

* * * *

A Mississippi Society of Professional Engineers has been organized, with H. A. Kroeze, director of sanitary engineering of the State Board of Health, as president. The purpose of this organization, as outlined in its constitution, is to safeguard life, health and public welfare, as affected by the practice of engineering; and also to represent the body of engineers and engineering education in Mississippi with a view toward promoting the public interest as affected by the service of the engineer, and to safeguard and strengthen the professional, educational, and economic interests of the group through legislation, care of public relations, etc., as well as to point out to the general public the standards and accomplishments of the engineering profession.

* * * *

The Division of Sanitary Engineering of the State Board of Health has just completed a series of regional meetings of the county health department sanitation supervisors. These meetings, held at Indianola, Hattiesburg and New Albany, were for the purpose of strengthening the enforcement of State Board of Health regulations governing food-handling establishments. Methods of insuring proper sterilization of eating and drinking utensils came in for considerable discussion as this is one of the most important phases in the operation of food-handling establishments in the efforts of the State Board of Health to prevent the spread of disease through such establishments. Representatives of the various county health departments gained a clearer interpretation of the sanitary regulations as they affect local conditions, and the meetings on the whole proved helpful.

* * * *

The Staff Conference of the State Board of Health on November 9 was devoted to a round-table discussion of the meeting held October 17-20 by the American Public Health Association. Dr. Felix J. Underwood, Dr. D. V. Galloway, Dr. R. N. Whitfield, Dr. J. A. Milne, Dr. H. B. Cottrell and Miss Ora E. Phillips lead discussions, viewing the conference from the standpoint of their particular fields of work, stimulating much interest in current problems in public health, in which all the staff profited.

* * * *

The Division of Mouth Health reports that two new dental hygienists have been employed to work with that department. On July 12, Miss Jane Smart, of Memphis, assumed duties as an itinerant dental hygienist, having had a 2-year training course in dental hygiene at the University of Tennessee. Miss Martha Hoss, graduate of Temple University in a similar course, began work on August 26. While at Temple Miss Hoss was under the supervision of Miss Margaret Bailey, first dental hygienist with the Mississippi State Board of Health.

Miss Elizabeth Kimmons, Pike County Dental Hygienist, is away on a four-month's leave of absence in order to study health education at the Massachusetts Institute of Technology. Miss Jane Smart is relieving Miss Kimmons.

* * * *

On November 3, Dr. Underwood spoke to the Mississippi Home Economics Association on "Rural Health Problems and How to Solve Them"; November 10, he addressed the State Conference of Social Work on "Health Care for the Low Income Group;" November 18, he outlined the "Latest Developments in Public Health" before the Peripatetics Club at Brookhaven, and he is scheduled to give numerous other health talks of an educational nature in the near future. There is much need among the laity for a clearer understanding of the benefits which modern-day medical practice can make available to them and the physician can render a good service by speaking to the public on subjects of health as occasion presents.

* * * *

The "Health" radio calender of the State Board of Health over WJDX (9:00-9:15 A.M.) for November is as follows:

November 4. Dr. R. J. Jones, Director Southeastern Health District, Lucedale, Mississippi—"Now That School Is Underway."

November 11. Dr. Felix J. Underwood—"Public Health and the Red Cross."

November 18. Dr. D. V. Galloway, Supervisor Venereal Disease Control—"Syphilis."

November 25. Dr. Felix J. Underwood—"Heart Disease."

* * * *

The Mississippi State Nurses Association, meeting in Jackson November 6-7, will be followed by an institute on "Nutrition" for public health nurses. Miss Marjorie M. Heseltine, Specialist in Nutrition of the Children's Bureau, is scheduled to speak. Various state agencies doing nutrition work in Mississippi will participate in the institute with a view toward better co-ordination of nutrition activities in the state.

* * * *

The Lauderdale County Health Department is now at work in its new $50,000 home, made possible by the Commonwealth Fund and citizens of Lauderdale County, and formally dedicated on October 4. Providing facilities for a Public Health Personnel Training Center, in addition to quarters for the county health department, the new building represents an important development in the state's public health program.

* * * *

The Division of County Health Work reports that during October the following physicians were employed by the Mississippi State Board of Health for a period of observation and training as county health officers:

FARMER, Isaac Chester: Born in Handsboro, Mississippi; University of Tennessee, Memphis—M.D., 1938.

Rotating internship—John Gaston Hospital, Memphis.

Now located at Cleveland, Bolivar County, Mississippi.

SNEED, Ralph: Born in Mississippi.

University of Tennessee, Memphis—M.D., 1938.

Interne—San Diego Hospital, San Diego, California, 1938-1939.

Now located at Canton, Madison County, Mississippi.

TAYLOR, James A.: Born at Sardis, Miss.

B. S. degree—University of Virginia, Charlottesville, June, 1922.

M.D. — Vanderbilt University, Nashville, June, 1933.

Teacher—Sewanee Military Academy, Sewanee, Tennessee, 1 year.

Interne—U. S. Marine Hospital, Stapleton, N. Y., 1 year.

Senior Asst. Physician—New York State Dept. of Mental Hygiene—Kings Park, L. I. 4½ years.

Now located at Belzoni, Humphreys County, Mississippi.

ALCORN COUNTY MEDICAL SOCIETY

The Alcorn County Medical Society at the October 19 meeting elected the following officers for the coming year:

G. W. Googe, president.
R. E. Honnoll, vice-president.
Bernard Patrick, secretary-treasurer.

COAHOMA COUNTY MEDICAL SOCIETY
AND
CLARKSDALE HOSPITAL MEDICAL STAFF

Minutes:

The meeting was called to order in the dining room of the Alcazar Hotel immediately after lunch on Wednesday, October 11, 1939. The minutes of the previous meeting were approved as read. The president, Dr. D. H. Griffin, stated that due to the fact that Clarksdale and Six-County Medical Society is meeting November 8, the meeting of our society has been postponed until the second Wednesday in December. There being no old or new business, the scientific session then began.

The secretary, Dr. Julius L. Levy, then showed a moving picture film entitled "Darkfield Diagnosis of Primary Syphilis." This film was enjoyed by all members present.

There being no further business, the meeting was adjourned.

October 14, 1939
Clarksdale.

Julius L. Levy,
Secretary-Treasurer.

DeSOTO COUNTY

It is a well known fact that Dr. Thomas Melville Dye of Clarksdale is the best secretary of a medical organization in the country and is making his city a superb mayor. Dye is valiant and a prince among men; now he has become a King. He was the King of the Delta Cotton Carnival Association and the pictures of him in the press were quite regal; in the ensemble were a number of ladies of pulchritude, the Delta's fairest. A barbecue was prepared for 10,000 people by the citizens of Clarksdale and vicinity; the whole affair was a gala occasion, indeed. Miss Evelyn Shannon of Lake Cororant, this county, and a niece of Dr. A. V. Richmond, was selected as the Queen for the ensuing year, blond of marked attractiveness.

Some newspapers up East maybe depriving its readers of a bit of information which they have been accustomed to find in the press.

It is now omitting to mention in its columns the nature of the disease or ailment to which death was attributable. This maybe a small contribution to the peace of mind of those who foster gloomy predictions, and who notice that some one has died of an ailment that he is supposed to be suffering from.

Earliest recorded use of chemicals in war was in 431 B.C., when the Spartans besieged the Athenian cities of the Platea and Velium. The attackers threw a burning mixture of pitch and sulphur over the city walls to drive out the defenders. First United States patent for a gas mask was issued to a man named Haslett in 1848, but the Army did not use them until the World War. The A. E. F. suffered 70,552 gas casualties, of which about 2 per cent were fatal.

In his Bunker Hill oration, Daniel Webster called Dr. Joseph Warren "the first great martyr in this great cause." Warren, born at Roxbury, Mass., in 1741, and graduated from Harvard in 1759, studied medicine with Dr. James Lloyd of Boston, and entered the practice of medicine in 1764.

If you prescribe sulfanilamide, you can write it also as P-aminobenzenesulonamide.

In the Middle Ages the greatest revenue derived by the pharmacists did not come from the sale of drugs but from the trade in fruit juices, preserves, spices, confections and sugar. The monopoly for the sale of ginger bread was given by a royal decree to the druggists of France.

In England the medicine departments were only small annexes of grocery stores, whose clerks would compound prescriptions in their moments. Don't think that the sometimes startling variety of alarm clocks, soda fountain snacks, toys, cigars and notion display found in every modern drugstore is an entirely new and revolutionary idea.

Mississippi State Sanatorium has issued a book of information about "Tuberculosis and Its Treatment in Mississippi." This book or catalogue is full of information and pictures of this great institution and its personnel. Dr. Henry Boswell, Superintendent, and his aids have indeed wrought well, and the people of Mississippi are proud of this Sanatorium and the beneficial work over the state. These Boswells excel in their respective lines; one James Boswell was a Scotch biographer, his "Life of Johnson" won him renown and our own Boswell has justly won fame in his line of endeavor.

The first physician of whom we have any record in history was I-Em-Hetep, "The Bringer of Peace." He was so highly esteemed that the famous step pyramid at Sakkara, near Memphis, is called by his name, and after his death he was worshiped as a god.

The grand old name of gentleman
Defamed by every charlatan,
And soil'd with all ignoble use.
Tennyson—In Memoriam.

Recently there appeared in the New York Herald Tribune an editorial entitled "Old-Fashioned Doctors." The following abstract indicates the feelings of the laity toward the general practitioner, especially the country physician:

"A paragraph in the news from Canadaigua, N. Y., reports the death of Dr. Barton T. McDowell, who called himself 'just an old-fashioned country doctor' and who had attended mothers at more than one thousand births. Probably it is inevitable that in time the beloved figures of the country doctors will become only a memory, but they are not yet all gone. Every now and then a death, a celebration of some such spectacular feat as that performed by Dr. Dafoe in the birth of the Dionne quintuplets serves to remind us of the importance of the general practitioners.

"The country doctor has come a long way from the horse-and-buggy days, but his place in many communities remains secure. He has an automobile now, and sometimes an airplane. But he knows, as his predecessors did, that the psychic factor, the bedside manner and friendliness, are things which cannot be replaced by cold and impersonal specialists. He knows, also, that he must not be aloof, but must be a part of the lives of his people. Many of these men still carry on, and some of their records are amazing."

That Marvelous Book

That marvelous Book, the Bible, is still "the Word of God" that liveth and abideth forever. And all the enemies of yesteryears and nowadays have not extinguished one spark of its holy fire, nor diluted one drop of its honey, nor torn one hole in its beautiful vesture, nor broken one string on its thousand-string harp, nor weakened its vitality by one pulse beat, nor shortened its march of triumph by one step. Today, this Bible walks more bypaths and travels more highways and knocks at more doors and speaks to more people in their mother tongue than any other book this world has ever known, or ever will know.

—Dr. Robert G. Lee, Memphis.

This wonderful Book has for its central figure the Great Physician whose mission always was to do good.

Rt. 4, Memphis, Tenn. L. L. Minor,
October 18, 1939. County Editor.

ISSAQUENA-SHARKEY-WARREN COUNTIES MEDICAL SOCIETY

Held at Elks Club, Tuesday, October 10, 1939 at 7:00 P.M.

PROGRAM:

1. "Low Back Pain"—Dr. B. B. Martin, Jr. Discussed by Dr. I. C. Knox and Dr. L. J. Clark.
2. "Progress of the Venereal Disease Program"—Dr. B. A. Stafford. Discussed by Dr. Edley Jones and Dr. L. Lippincott.

Dr. Walter Johnston and his program committee are to be commended for having acceptances from the following speakers for our annual meeting in December:

(1) Dr. Beverly Douglas, Surgeon at Vanderbilt University at Nashville, Tenn.

(2) Dr. Seale Harris, Jr., of Birmingham, Ala., who will discuss "Recent Practical Advances in Endocrinology."

(3) Dr. C. Gurney Clark, Instructor in Department of Medicine at Vanderbilt University, Nashville, Tenn.

RADIO TALKS FOR THE NEXT MONTH:

a. "Florence Nightingale."—Dr. G. C. Jarratt.

b. "William Beaumont."—Dr. Walter E. Johnston.

c. "John Bostick," Founder of Allergy.—Dr. Edley H. Jones.

d. "John McRae."—Dr. I. C. Knox.

ALSTON CALLAHAN,
Secretary and Treasurer.

Woman's Auxiliary
TO THE
MISSISSIPPI STATE MEDICAL ASS'N

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Vicksburg
President -elect ....Mrs. E. C. Parker
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First Vice-President ....Mrs. John B. Howell
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Fourth District, Mrs. Paul Brumby, Lexington; Fifth Disrtict, Mrs. B. B. Martin, Jr., Vicksburg; Sixth District, Mrs. H. Lowry Rush, Meridian; Seventh District, Mrs. S. E. Bethea, Jr., Hattiesburg; Eighth District, Mrs. Lucien Gaudet, Natchez; Ninth District, Mrs. R. C. Ely, Moss Point. Advisory Council: Dr. J. Percy Wall, Jackson; Dr. W. H. Anderson, Booneville.

WOMAN'S AUXILIARY TO THE SOUTHERN MEDICAL ASSOCIATION

A record attendance of doctors' wives is expected at the annual meeting of the Southern Medical Association in Memphis, November 21-24. Registration for those who plan to attend the auxiliary meetings begins Tuesday, November 21, at 9:00 A.M., Peabody Hotel, Mezzanine Floor. Wednesday, beginning at 10:00 A.M., after the call to order by the president, Mrs. W. K. West, of Oklahoma City, Okla., the address of welcome will be extended by Mrs. Willis C. Campbell, of Memphis, responded to by Mrs. Harry V. Thomas, Clarksburg, West Va. Greetings will be heard from the Advisory Council of the Southern Medical Association, the Memphis and Shelby County, the Tennessee State Medical, and the American Medical auxiliaries, and presidents will be recognized. The annual luncheon is scheduled for 12:30 P.M., tickets $1.00. An outstanding feature of the afternoon session is the parade of states, an idea developed by the president, Mrs. W. K. West.

The session on Thursday will be given over to routine business and election of officers.

A special program of entertainment has been planned by the Memphis doctors' wives, headed by Mrs. Willis C. Campbell, general chairman, including a luncheon and fashion show Thursday at 1:00 P.M., at the Nineteenth Century Club,—given by the Auxiliary to the Memphis and Shelby County Medical Society, Mrs. Walter A. Ruch, president.

Mississippi has had an active part in the Auxiliary to the Southern Medical Association since Mrs. D. J. Williams, Gulfport, was president in 1926. Mrs. W. W. Crawford, Hattiesburg, is historian, Mrs. Harvey F. Garrison is chairman of the Budget Committee, and Mrs. R. H. Clark, Hattiesburg, is councilor.

AND DON'T FORGET

Send an account of the meeting of your auxiliary to the press and publicity chairman the very day it happens!

WOMAN'S AUXILIARY TO THE DELTA MEDICAL SOCIETY

The Woman's Auxiliary to the Delta Medical Society convened at Cleveland Wednesday afternoon, October 11, in the Woman's Club house. Members from LeFlore, Bolivar, Humphrey, Sunflower and Washington counties responded to roll call.

Mrs. G. J. Mancill, newly elected president, opened the meeting with assembly singing "America." The address of welcome was given by Mrs. L. L. Beal, of Cleveland, and the response was given by Mrs. T. J. Barkley, of Isola.

At a business session Mrs. H. L. Cockerham, of Gunnison, chairman of the Preventorium Contest, announced that a Merigold grammar school girl was awarded first place in the state for her essay. It was also voted to contribute $5.00 to the Preventorium. The following past-presidents were introduced: Mrs. J. D. Simmons, Mrs. H. L. Cockerham, and Mrs. T. J. Barkley. Vice-presidents making reports were: Mrs. W. E. Wiggins, Sunflower; Mrs. W. S. Taylor, Humphrey; Mrs. Cockerham, Bolivar; Mrs. B. F. Hand, Washington, and Mrs. Lucas, Leflore.

Highlight of the meeting was a talk by the charming and able young state president, Mrs. Hugh Johnson, Jr., of Vicksburg, who gave a splendid outline of the objectives of the organization. Following her address Mrs. Kent, of Vicksburg, was introduced and gave a most inspiring talk on the Tuberculosis Association in Mississippi. Members were delighted to have as their guest, Mrs. J. Percy Wall, of Jackson, wife of the newly elected president of the medical association.

Following adjournment the visitors were treated to a genuine sample of Cleveland's hospitality.

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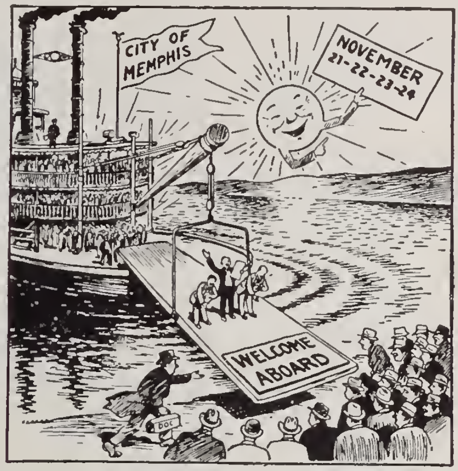

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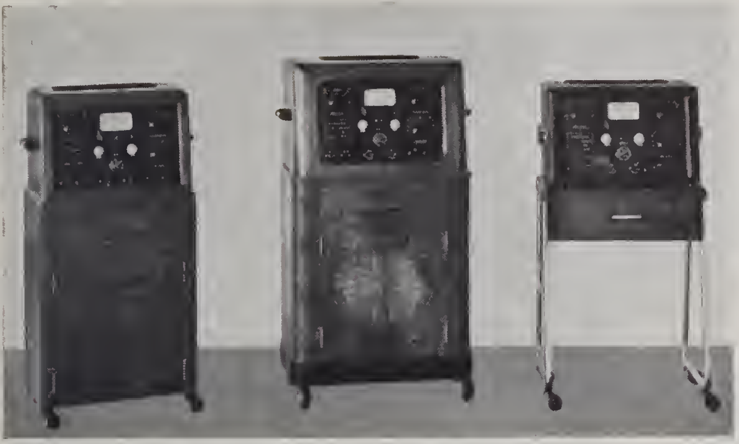

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[1] "Twenty-five years of Health Progress"—Metropolitan Life Insurance Co., 1937; Pages 339-340.

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The Mississippi Doctor

VOL. 17 BOONEVILLE MISSISSIPPI, DECEMBER, 1939 NO. 7

The Doctor's Christmas Devotion

O, Christ of God, Eternal Prince of Peace,
This solemn season which we celebrate,
Thou Great Physician, let Thy grace increase
In every heart and home and church and state!

Let Love illumine every path we tread.
Walk Thou beside us down each winding way.
Let every deed that's done, each word that's said
Be of Thy clear approving, Christ, we pray!

Give us Thy skill, Thy spirit and Thy zeal.
This holy tide, we would not pray in vain.
Be ours the boon to hearten and to heal.
In each of us, let Christ be born again!

— David E. Guyton, Blue Mountain, Miss.

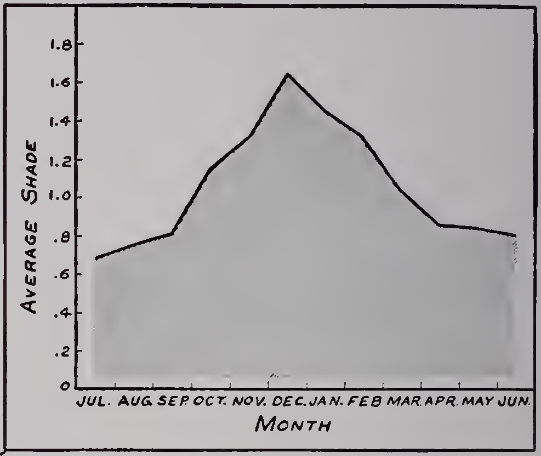
Written for the Christmas Number of
The Mississippi Doctor, 1939

WEATHER FORECAST—
HEAVY SMOKEFALL

SMOKE exerts a definite influence on the weather at this season by reducing the amount of sunlight. Beginning in September there is a steady rise in atmospheric pollution until in December it becomes double that of midsummer, according to a recent report of a two-year study made by the U. S. Public Health Service in ten of the largest American cities, representing a population of millions. One of the most surprising findings was that there is no decrease in the dust content of the air either during or after a rain.

Winter Sunlight an Unreliable Antiricketic

Atmospheric pollution is but one of many forces militating against the therapeutic effects of ultraviolet rays in winter. Others, to name only a few, are cloudiness, precipitation, and clothing. In winter, moreover, it is often impracticable to give sunbaths to infants during the very time they are most susceptible to rickets — the first six months of life.



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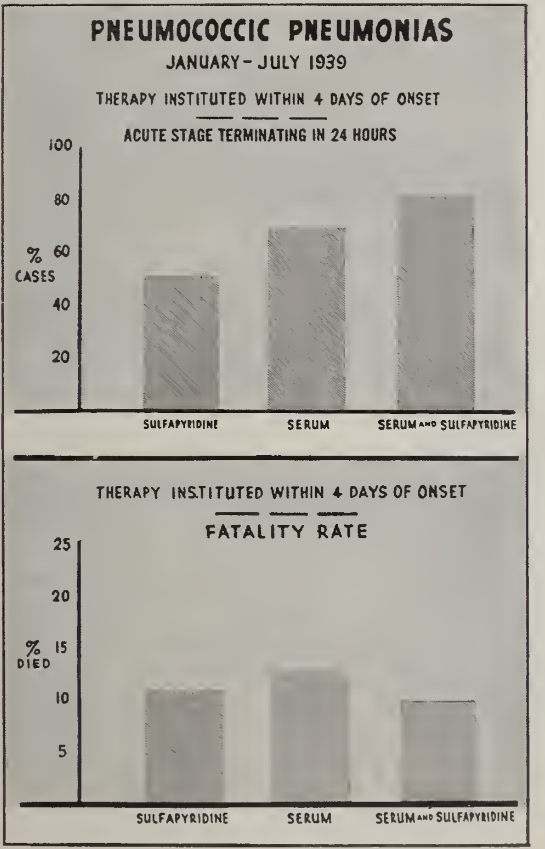
LONG and WOOD* reported a fatality rate of 7.2 per cent. in 139 adults treated at the Johns Hopkins Hospital. The authors attributed this low death rate to the use of sulfapyridine, antipneumococcal serum, and a combination of serum and sulfapyridine. Investigators are now uniformly reporting lower fatality rates than were before thought attainable.

Toxic manifestations of the drug are similar to those described in the course of sulfanilamide therapy—central nervous system disturbances, drug rashes, drug fever, and disturbances in the red and white blood cells. Impairment of renal function is one of the most important complications.

Obtain sputum and blood cultures for bacteriologic diagnosis as a guide in treatment and aid in prognosis.

Administer sulfapyridine in adequate dosage to all cases.

Observe precautions against toxic effects of the drug by making daily urine examination, red and white blood cell count, and hemoglobin determination.



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*LONG, PERRIN H. and WOOD, W. BARRY, JR.: Ann. Int. Med., Vol. 13, No. 3, Sept., 1939, Page 487.

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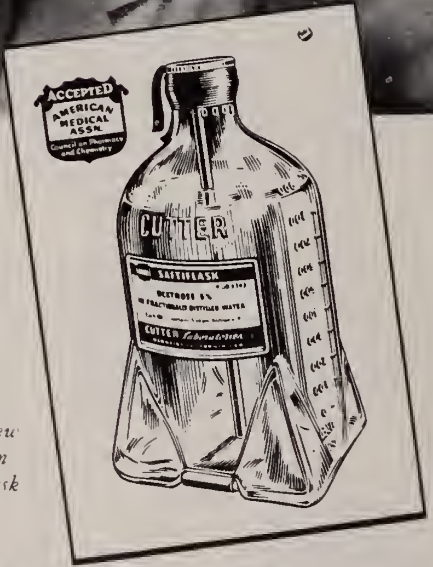
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Hindering Factors in the Treatment of Genito-Urinary Infections*

EDGAR G. BALLENGER, M.D., F.A.C.S., OMAR F. ELDER, M.D.
AND REESE C. COLEMAN, JR., M.D.
ATLANTA, GA.

WHY DO SOME patients respond promptly to courses of urinary antiseptics while others with a similar infection and treated with the same remedies fail to do so?

The recent developments in chemotherapy have greatly stimulated interest in the mechanism of man's defensive agencies. A study of these has helped in understanding certain retarding conditions and factors in his bodily fight against bacterial infection. This study has been greatly activated by advances in chemotherapy and thermotherapy which have brought new lines of approach and have led to new concepts of the vital factors involved in the mechanism of this bodily fight against infection.

The remarkable effects of sulfanilamide and its chemical cousins in the treatment of many bacterial infections have enabled experimental and clinical studies which heretofore have been impossible.

In spite of our lack of knowledge of the manner in which sulfanilamide works, the reasons for success in some instances and for failure in others are becoming apparent. We should be able to recognize in advance at least some of the conditions which tend to bring about failure.

The factors involved in failures will be discussed in the following order: first, those which have to do chiefly with the patient, second, those which concern the infecting microorganisms, and third, those concerned with the remedies employed.

In order to limit the discussion to practical bounds, the types of bacteria will include only those infections ordinarily responsive to sulfanilamide and hyperpyrexia. Without these limitations the subject would be too extensive to take up in the time available.

The interlocking relationships of the various retarding factors involved in man's fight against infection are too close to attempt to discuss them separately.

What may appear to be an infection resistant to a chemical agent may prove to be due wholly to a lack of response on the part of the patient; or it may be primarily a failure of the drug employed.

Two main types of failures are noted in the use of sulfanilamide for infection ordinarily responsive. One, when decided benefit follows its use but the infection becomes worse when it is discontinued. Two, when little benefit follows the same doses of sulfanilamide for a similar infection.

The difference in effect in such cases is probably due in the first instance to infection being in a protected focus; in the second to a failure of assisting defensive measures of an immunizing nature.

In the first instance treatment must be continued for a longer time than is ordinarily required or the protected focus must be found and eradicated.

In the second the fault is of a general nature and success will not follow an attack upon a focal area. In such infection systemic measures are required to fortify the treatment with sulfanilamide.

At times both focal and systemic factors are to blame for failures.

PROTECTED FOCI

Failures due to protected foci will be discussed first because they are more commonly seen.

The relationship of persisting infection and poor drainage from cavities such as the sinuses, middle ear, mastoid, gall bladder, and abscesses at the roots of teeth, is well recognized. Bacteria in such areas are resistant because of poor drainage and because adequate amounts of immunizing and chemical agents do not reach them.

Please bear in mind that bacteria ordinarily not responsive to sulfanilamide are not now being discussed. Nor are patients included who for one reason or another cannot take adequate doses of sulfanilamide.

---

*Read before the fifty-fourth annual session of the Mid-South Postgraduate Medical Assembly, February 14-17, 1939, Memphis, Tennessee.

It is clearly evident that these focal failure problems are entirely different from those in which the major part of the infection is not controlled by sulfanilamide. Such failures probably are due to a lack of response on the part of the immunizing mechanism. Gross failures in this type of urinary infection may result from stasis of urine in the bladder or renal pelves. These areas may act as protected foci when the function of the kidneys is poor or when the doses of sulfanilamide are insufficient or when foreign bodies are present.

Ordinary non-specific infection rarely causes an inflammation unless aided by urinary stasis. This statement is true regardless of whether the infection is ascending in origin or whether it comes from the blood or lymph stream.

Moreover, distant foci rarely will act as "feeders" unless the bacteria are fed to vulnerable points such as those afforded by urinary stasis or areas with poor drainage. While it is important to think of and to correct sources of infection, it is even more important to correct the obstructive lesions which act as prime causitive local factors.

Obstructive lesions are not only the commonest causes of chronic or recurrent cystitis and pyelitis but they are the most frequent causes of non-specific urethritis, prostatitis, and seminal vesiculitis.

Stricture of the urethra in women is the most frequent cause of chronic cystitis and cystitis-like symptoms.

One of the most frequent mistakes made in dealing with urinary infections in children is the diagnosis of all pyurias as "pyelitis" regardless of the actual cause of the pus in the urine.

Infection of the renal pelvis all too frequently is only a symptom of an obstruction in the ureter or at the vesical neck. Stagnant urine in the bladder or in the renal pelves and the obstruction causing it are far more important to recognize and to treat than is the associated chronic infection.

There is little difference in the diagnosis and treatment of many of the genito-urinary diseases of children and of adults, except as regards prostatic obstruction and the frequency of calculi in the latter.

The primary problem in dealing with chronic or recurring genito-urinary infections, regardless of their location, is largely a plumbing job to overcome stasis and thereby eradicate focal areas. Control of infection becomes a secondary problem when free drainage has been provided.

In elderly men often the non-specific urinary infections are due to benign or malignant prostatic obstructions. Luckily, the modern method of removing these barriers transurethrally has greatly lessened the mortality rate incident to these disorders. Success from this procedure is greatly enhanced if the transurethral resection is done while the patient still is a fairly good operative risk. Delay in having it done necessitates preliminary catheter drainage to overcome urinary infection and improve renal function; such delay may greatly prolong the stay in the hospital as well as the dangers involved.

It might seem that these various problems have led considerably away from the subject. Such, however, is not the case because failures in the treatment of nonspecific urinary infections nearly always are due directly to obstructive lesions, pocketed areas and foreign bodies. Success with antiseptics is usually easily attained if these hindering factors are corrected.

GONOCOCCAL INFECTIONS

Protected foci or dead spaces rather than urinary stasis play a dominant part in retarding the cure of gonococcal infection. Among the hindering or protecting areas the following may be listed: abscess of fistulas anywhere along the genito-urinary tract; stagnant secretion in the seminal vesicles; areas at or back of urethral strictures; plugs of mucus in the uterine cervix; diverticula; residual urine in the bladder; areas around foreign bodies and calculi, etc.

In dealing with infections such as the gonococcus, eradication of protected foci is of prime importance.

Regardless of the general fitness of the patient undoubtedly a higher degree of immunity and a greater concentration of chemical germicides are required for eradication of bacteria from protected foci than when the organisms are not so protected. For the lack of a better term we call these areas "dead spaces." They should include probably also infected edematous areas and those from which the lymph vessels are obstructed.

Recently studies by Lockwood have explained in detail why this is the case. He has shown that even a small amount of peptone or peptone-like products greatly retard the germicidal activity of sulfanilamide.

FAILURES ON ACCOUNT OF LACK OF SYSTEMIC RESPONSE

As stated in the earlier part of the paper the bactericidal and bacteriostatic power of sulfanilamide alone is inadequate in the treatment of a considerable percentage of the patients with gonorrhea and its complications. Others respond so quickly that it appears, at least at the present moment, that the gonococcus is killed directly by sulfanilamide.

The body's defensive mechanism undoubtedly assumes a major role in bringing about a cure in the patients who do not respond at once to the drug.

Major response to treatment with infection remaining only in focal areas, indicates clearly that both sulfanilamide and the body's defensive mechanism are working properly. It is obvious that supplementary measures, in such instances, should be directed especially toward the eradication of the protected foci.

If, on the other hand, the major therapeutic response does not develop it then becomes evident that the needed subtle supplementary substance which the body produces, is lacking.

In these cases the urine remains grossly cloudy and the clinical symptoms, while not perhaps becoming more extensive, fail to yield. Failures of this kind are not logically attributable to protected foci—at least we have not been able to find such areas in unresponsive infections. Of course, at times there may have been gross unrecognized dead spaces.

In studying the effect of sulfanilamide it becomes clearly evident that at times it is distinctly germicidal, at others only bacteriostatic; and still at other times it seems only to prevent the spread of the infecting bacteria to adjacent tissue. This variable action, with the same degree of concentration in the blood stream, points strongly toward assistance from the patient's protective mechanism as playing an important though varying part in the resultant success or failure.

Many observers have noted that the existence of infection for several weeks or longer before sulfanilamide is started favors the action of the drug. This delay in using sulfanilamide, however, often results in the formation of dead spaces, increases complications and thus offsets advantages gained by postponing its use.

REINFORCING AGENCIES

Experimental laboratory studies by Mellon and his associates have shown that resistance of the "host" to bacterial invasion may be increased by fortifying agents such as vitamin B_1, vitamin C, and liver extract. Since there is considerable collateral evidence in support of the validity of these suggestions their clinical trial seems justified. Benefit from them should not be expected, of course, except when such deficiencies exist.

Vitamin B_1 probably works through its influence in tissue oxidation. Its action appears to be catalytic. Experimental work by Boothby and his associates, at the Mayo Clinic, has shown that the inhalation of pure oxygen, for periods of a day or so, decidedly assists in the fight against infection, especially of the anaerobic type.

Vitamin C is intimately concerned with the production of intercellular cement and with cellular metabolism. It plays an important part in the healing of clean wounds and in the tissue control of bacterial infection. Kaiser and Slavin recently reported the relationship of vitamin C to streptococcic infection in the tonsils of 123 children in which the tonsils and the blood were studied and graded according to content of vitamin C. The tonsils were also graded according to the virulent streptococcic infections found. Those in the upper third of the vitamin C group with a high percentage of this vitamin showed streptococci in only ten per cent and many of these were not of the malignant type. Those in the lower third with low vitamin C content had streptococcal infection in 55 per cent. That is, there were five and a half times more infections in the lower vitamin C third than in the higher third.

RESISTANT BACTERIA

At times an infection responds well at first to sulfanilamide and later fails to be affected by it. This seems especially likely to be the case in which the drug has been discontinued before the infection is eradicated. Relapses in such cases may not respond to sulfanilamide as well as when it was first administered.

In trying to prevent such occurrences we find ourselves at times on the horns of a dilemma. Shall we take the chance of toxic reactions from the prolonged use of the drug or shall we run the risk of a relapse? There is no set rule to go by. Cautious study of the patient as the drug is gradually reduced probably affords the safest plan. Of course, careful consideration should be given to the possibility of the likelihood of the presence of protected foci. The possibility of a relapse should be balanced against the danger of a serious toxic reaction. In such cases treatment becomes truly an art instead of a science. Observation of the patient should be frequent and studies of the hemoglobin, red cells and while cells made from time to time, as suggested by the patient's symptoms and condition.

It is exceedingly important to study the toxic reactions of the drug. Minor disturbances may seem more serious at times than really dangerous ones.

ARTIFICIAL FEVER AS A SUPPLEMENTARY MEASURE

As a supplementary measure for infections resistant to sulfanilamide nothing has been found to be so dependable as artificial fever. It brings into play numerous bodily factors which are of prime reinforcing value. Even in resistant gonococcal infections benefit follows its use immediately and in about 90 per cent complete eradication of the infection is accomplished within a week or less.

The simultaneous use of sulfanilamide and artificial fever brings about a cure with much less of each than is required when they are employed separately. The patient is given full size doses of sulfanilamide for two days before the hyperpyrexia. The temperature (oral) is maintained at 103 or 104 degrees for three or four hours. The treatments are given every other day until three or four have been administered. This, as stated, is usually sufficient and even less is sometimes curative.

Sulfanilamide is continued on the days between the fever treatments. Patients whose physical condition is such that they cannot be submitted to a major operation with reasonable safety are not regarded as suitable for artificial fever treatment. When the pulse exceeds 140 the means for inducing the fever are discontinued regardless of the temperature attained. So used hyperpyrexia has been found to be safe and efficacious in reinforcing sulfanilamide.

DANGER SIGNALS

Nothing said in this discussion should be taken to mean that hyperpyrexia treatments can be given safely without constant careful attention. The doctors in charge as well as the nurses and technicians must be alert and well informed as to the modalities for inducing artificial fever. A number of serious accidents have been reported from artificial fever therapy. These have been chiefly from its misuse by those who were without experience or lacked adequate equipment. The greatest danger is from those who make a reckless effort to produce artificial fever to a given point regardless of danger signals or of the general condition of the patient.

SUMMARY

It is of great importance to recognize protected foci or dead spaces as chief causes of failure in the treatment of genito-urinary infections and to direct special attention to the fact that a longer time, a higher degree of immunity or a greater concentration of therapeutic agents is required for the eradication of infection from such foci than for the eradication of infection not so protected.

Sulfanilamide is a remarkably efficacious drug, but it is not one to be used indiscriminately or over prolonged periods without an effort to reinforce its use with supplementary measures or without a search for protected foci in need of special local treatment.

Hyperpyrexia is the most dependable agent with which to reinforce sulfanilamide in the treatment of resistant infections.

The combination of sulfanilamide and artificial fever is more effective and less disturbing than either used alone in combating many resistant infections of the human body.

The amount of fever and of sulfanilamide required for cure is less when the two agencies are employed simultaneously.

The triple combination of sulfanilamide, artificial fever, and local measures affords our most effective means for the prompt elimination of resistant infections of the genitourinary tract.

Some Everyday Pediatric Problems*

HARVEY F. GARRISON, M.D.
JACKSON, MISS.

SOMEONE has said that a thousand other problems of government would vanish if we could have but one generation of properly born, trained and healthy children. As guardians of the health of infants and children, the physicians of this state have a definite responsibility. Many needless deaths occur each year as a result of ignorance and lack of medical attention. This is a matter for education of both the public and the medical profession. By this, I mean an increase in the appreciation by parents of the need for a higher type of care, which must proceed concurrently with the increasing readiness of the medical profession as a whole to render it when given the opportunity.

Infant mortality rates have been greatly reduced within recent years, it is true, yet figures from the Vital Statistics Department of the State Board of Health show convincingly the need for each of us to increase our efforts in this direction, as well as the necessity for more active participation in the immunization program.

	1936			1937		
DEATHS	Total	W.	C.	Total	W.	C.
Under 1 day	783	416	367	922	457	465
1 to 6 days	324	114	210	388	170	218
Total — First month	1494	676	818	1678	755	923
Total under 1 year	2883	1105	1770	3098	1174	1924

These vital statistics are not just figures, because behind each one stands a human life. It is noted that more than half of the infants who die the first year die under one month of age; 29.8% of the deaths under 1 year occur the first day, 12.5% occur from 1 to 6 days, and 54.1% are under one month. Many of these deaths can be prevented and it is our responsibility to do as much as we can to guide the health habits of both mother and child throughout life. Maternal and child care form an inseparable unit. The care of the child begins with the care of the expectant mother, and the influence of prenatal care is reflected not only in infancy but throughout life. Competent medical and nursing care during pregnancy, adequate care at the time of childbirth, treatment of syphilitic mothers, care of newborn babies—especially care for babies prematurely born—and facilities for hospital care when necessary would materially reduce our present mortality rates.

In pediatrics as in every other medical specialty, the preventive and the curative phases should always go hand in hand. Therefore, the preventive measures instituted will have a material effect upon the solution of many of our pediatric problems. The installation of home delivery nursing service for the prospective mother by the State Board of Health is a progressive step, deserving commendation, and I should like to congratulate our efficient health staff for the splendid educational work they are doing.

It has been truly said that the health of the soil in which the human seed is planted is indeed of the greatest importance and should receive every medical consideration. As I have stated, the care of the child and the tackling of many of our pediatric problems should begin during the preconception and prenatal periods. It is during this time that we have our greatest opportunity to serve the health needs of mother and child. That her baby may be born and remain healthy and that she may live to guide her child through life, the best care within our power to give her should be forthcoming at all times.

IN THE LIGHT OF PRESENT DAY

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*Read before the Section on Medicine at the seventy-second annual session of the Mississippi State Medical Association, May 10, 1939, Gulfport, Miss.

KNOWLEDGE, EXCEPT FOR IGNORANCE OR NEGLECT, we should rarely if ever see a case of congenital syphilis, and I need only to mention that prevention of this tragedy must be begun during the early months of pregnancy.

Heredity has a definite bearing on the solution of many of our pediatric problems. If those of us who look after the welfare of children, as well as those who are responsible for the well-being of the prospective mother and her unborn baby, would put to work all of the available knowledge at our command we would accomplish much and would witness a gratifying increase in the number of children who get a decent start in life. Good prenatal and delivery service is one of the essentials in decreasing premature births, cerebral hemorrhages, and many other pediatric problems.

A careful examination of the baby should be made immediately after birth. If it is found to be physically normal, weight will average about seven pounds, length about 20 to 21 inches, circumference of head about 13¼ to 13½ inches, color will be good and baby will cry well, and we may then feel we have embarked on the right highway. But reverse this picture and suppose that instead of a beautiful, well-developed, normal infant, we are presented with one whose weight is five pounds or less, whose length is seventeen inches or less, color is slightly cyanosed, skin is covered with fine hair, and respiration is irregular—this baby becomes **pediatric problem number one.** Such a problem demands serious consideration by the practicing physicians of the state. The average home—and many hospitals—has not the facilities for proper care of the premature baby, and without this care not many of them live. It would be gratifying to see Mississippi enact a law similar to that of Massachusetts to take care of this need. This law, passed in 1937, provides for the reporting of premature births to local boards of health by physicians, and provides also that the local board of health transfer the premature baby born in the home to a hospital equipped for his care. This law is helpful because hospitals are showing increased interest in becoming centers for the care of babies. The board of health pays for the transportation, and the local board of public welfare will pay up to $2 a day for the hospitalization of the infant if the parents are not able to. The transportation is done at the written request of the physician and the parent.

Such a service could be established at nominal cost and extended to the premature as well as the physically-handicapped baby that cannot be properly cared for in the home. This progressive step could go a long way toward solving our premature problem, and would materially reduce our infant mortality rate. Since the modern mother seems to demand more obstetrical analgesia, there has been a definite increase in asphyxia of the newborn. We frequently find it necessary to resort to respiratory stimulants and occasionally use CO_2 and the infant drinker respirator (iron lung). The most common difficulty arising in the newborn is vomiting, the causes of which, listed in the order of their seriousness, are: 1. Excessive mucous and amniotic fluid. 2. Intestinal stasis. 3. Cerebral hemorrhage. 4. Cerebral edema. 5. Various anomalies of the gastrointestinal tract.

It will be seen from the statistics quoted that the first six months of the baby's life are very definitely the most important. It is during this period that it is going through the most crucial time of its whole career. This is definitely the time to establish the necessary food requirements in order to prevent poor nutrition and its subsequent diseases. It must have adequate fluids, it must eat, gain and grow. We cannot depend entirely on the adequacy of any kind of milk, unless the deficiencies are corrected by the addition to the child's diet of cod liver oil and orange juice. These essentials are added routinely within the first six weeks. Even milk, with the addition of cod liver oil and orange juice, becomes inadequate as the sole article of diet, after three to five months of age. It is necessary to begin giving other articles of food in the diet at this time. One gradually adds articles to the diet as the months pass so that by the time the child is twelve to fifteen months old, it will be eating essentially the same diet it will eat the remainder of its life. During the early period, the child is more sensitive; it is growing and developing at a rapid rate and is less resistant. The food must be carefully prepared, the diet must be well balanced and all food and fluids must be guarded against contamination. As the child is given more of this additional food, milk assumes a less prominent place in its diet, and definitely becomes of secondary importance by the time it is a year or fifteen months old, if healthy growth and development are maintained. The proverbial "quart a day" is no longer considered necessary, or even wise.

IMMUNIZATIONS

I am sure you will agree with me that the demand for the medical profession to practice more diligently the administration of immunogens, is absolutely necessary. I should like for us briefly as well as seriously to consider this matter together at this time.

We advise immunizations against smallpox at two to four months, whooping cough vaccine at the age of six months, diphtheria toxoid at eight months and typhoid vaccine at the twelfth to fifteenth month, thus completing all the immunizations by the twelfth or fifteenth month. May I urge that as physicians it is our duty to take the lead in immunizing all children in our practice. The physicians should do this work. They should charge and collect for it, just as they do other work, rather than neglect it and force the health department to do it. If we will turn our children over to the school authorities in this state in a good state of health with all of the immunizations already done at the age of entrance, we need have little concern about many other pediatric problems.

There is a fifth procedure which is quite important, because of its preventive significance; I refer to the tuberculin test. Children found with a positive tuberculin reaction during these years and before entering school can often be prevented from developing actual tuberculosis and the tuberculin test also serves as an excellent lead to the source of infection.

It is impossible to enumerate many of the everyday problems in pediatrics in the short length of time alloted for this paper. The two outstanding groups, the gastrointestinal and respiratory diseases, account for more sickness and deaths than all the others combined. The gastrointestinal diseases are many. We will mention only two, vomiting and diarrhea. When called to treat either, a few suggestions are offered, which I hope will be helpful. Every baby should be trained from birth to take water or orange juice, and one or more bottles of milk daily which have been properly prepared and modified to suit the baby's needs. Infants should not be given water or other fluids by spoon. All babies should be weaned entirely from the breast not later than one year old. Babies should not be allowed to nurse breast or bottle at night after the sixth month. When the baby is taken acutely ill with vomiting or diarrhea, stop all foods, breast or bottle milk at once. After careful examination, if you are satisfied that an acute appendicitis, obstruction or some other surgical emergency does not exist, give a warm soda enema, be sure to flush the lower bowel, then give only small quantities of sterile water and diluted, strained orange juice, by mouth at frequent intervals. If the baby continues to vomit, do not give large doses of calomel, castor oil or other drastic purgatives. I would suggest that instead of these you try a prescription which I have found effective for many years. It is:

RX:

Calomel grs II
Sod. Bicard grs xx
Chts. x
Sig: 1 q. 30 min. for 6 doses
1 q. h. until vomiting ceases.

The vomiting usually stops after giving from two to six powders. Then if stools are too frequent, follow this with a medium size dose of milk of magnesia. Never give calomel in large doses, certainly never larger than one-fifth grain to each dose and never attempt repeated doses of castor oil. Occasionally, small or repeated doses of milk of magnesia will stop vomiting, but too often the vomiting will continue. You can do no harm with the one-fifth grain of calomel and two grains of sodium bicarbonate, and in the majority of cases, the vomiting ceases and the diarrhea is much improved within a very short time. Give all the water and diluted orange juice that the baby will take. Fluids are necessary and very essential in these cases. After 24 to 48 hours begin to feed cereal water in bottle or glass, preferably rice, or barley two or three tablespoonfuls to the quart of water; serve every three or four hours. You may then very shortly begin the feeding of cereal gruels. The greatest danger in these cases is the problem of dehydration. If they continue vomiting, and have frequent stools, intravenous and subcutaneous fluids must be instituted at once and in severe cases, they must have nourishment and we must not starve them to death. With the proper management, practically all of them will get well; improperly managed, many of them die. There is nothing that works so well as blood transfusions in many of these cases; especially in the dysentery or so-called colitis group.

The respiratory diseases, like the gastrointestinal group, include many problems entirely too numerous for all of them to be considered at this time. Preventive measures should again be mentioned here. Probably the greatest cause for acute colds is the lack of proper information in regard to clothing and ventilation. Most of our colds occur in the winter months. The babies and children are almost invariably kept too warm and too close. Babies in Mississippi should never wear any woolen underwear or under clothes; sleeveless cotton shirts and cotton undershirts should be preferred. Long sleeve shirts predispose to colds. Babies can be well protected from chilling by the addition of wraps and blankets when necessary. Good ventilation with no drafts should be insisted upon. In regard to the treatment of colds, one precaution or suggestion should be made and that is that practically all types of respiratory infections in infants and children require a warm atmosphere, say not over seventy or seventy-five degrees. The disposition of practically all mothers and more especially the "grandmothers" is to keep the babies entirely too warm.

A thorough physical examination, especially of the throat and ears, the latter with a good otoscope is essential. Many acute ears can be detected only by such examination. Throats should be carefully examined for any evidence of septic or diphtheritic spots. If septic tonsilitis is found, it should receive prompt and proper treatment with 15-20% solution of silver nitrate locally, and sulfanilamide internally; but if diphtheria is found, antitoxin in 10,000 to 20,000 units should be given at once. In all probability there are entirely too many ears being punctured now. Many of them will subside, if properly treated, without being opened; however, the highly inflamed ear with bulging drum and where the short process is not visible, should be well opened and closely observed for fear of acute mastoiditis.

With a crying child it is often difficult properly and correctly to diagnose pulmonary diseases in children. It is often necessary to resort to the x-ray to clear up or corroborate a diagnosis in such cases. Laboratory examination helps very materially in diagnosis, but x-rays pictures are more valuable in determining the type as well as the extent of pulmonary pathology. The average, uncomplicated acute case of bronchitis with fever and cough can best be treated in infants and children with some solution of a fever and cough mixture. A favorite prescription of mine and one which will give you satisfactory results is:

RX:
Aspirin dr. ½
Sod. Cit. dr. 1
Sr. Orange qs. oz. 2.
Sig: Half to 1 tsp. or more
according to age

To make a perfect solution it is necessary to heat the syrup of orange to almost a boiling point, and add the sodium citrate and aspirin while hot, then shake well. If properly prepared, it makes a perfect solution. You can, of course, make up a large bottle and give proportionally larger doses for the older children.

In addition to this, I usually prescribe some cough mixture composed of ammonium chloride, syrup of cherry, or you may add some other syrup of your choice, and also occasionally the addition of codeine or solution of phenobarbital in suitable doses as a sedative. Another favorite of mine and one which has given the mothers, and the grandmothers, and myself, almost universal satisfaction is a mixture of the following as a local application to the chest:

RX:
Camphor pulv. oz. IV
Oil Eucaliptus oz. 1½
Menthol drs. 2
Spts. Turpentine oz. 1
White vaseline qs. oz. 16.

Heat the vaseline to boiling, add turpentine, camphor, dissolve and then add menthol and oil eucaliptus. Use to rub chest or to saturate jacket for colds, bronchitis and also in pneumonia. It may be used as a local application to the chest either by rubbing on or by the application of ointment which has been previously heated, dissolved and applied on an old worn-out outing jacket (not woolen), well saturated, but squeezed out, enveloping the child's chest. These tight chest colds, the acute bronchitis with a croupy, aggravating, mother-tantalizing cough, will practically all respond to this method of treatment. I have won the esteem of many grandmothers as well as many mothers, and cut short many severe attacks of upper respiratory infections, by the application of this remedy. A trial is all that is necessary to convince you of its value in such cases.

There can be no doubt that sulfanilamide is the greatest addition to our armamentarium of drugs since the introduction of arsphenamine. In pediatric practice, it has proved its usefulness in no small way in the prevention and treatment of the so-called septic complications of scarlet fever, erysipelas, hemolytic streptococcus, infections of the throat, mastoiditis, meninges, peritoneum and blood stream. The effects of this drug have been most striking. Its use in the gonorrheal infections has been a great forward step, and its effect as a urinary antiseptic is already well known.

Pneumonia in infants and children is a very serious disease and one which has a high mortality rate. The new drug sulfapyridine, which is a derivative of sulfanilamide, is probably destined to become one of the greatest advances of these times in the treatment of pneumonia. The results already obtained from its use are nothing short of miraculous, and in many instances, spectacular. It is put up in tablet form and can be easily given by mouth, or in the severe toxic cases of pneumonia may be given intravenously. It has a less toxic effect than sulfanilamide and has a very decided effect upon the temperature, the blood count, and the general clinical symptoms in the majority of cases of lobar or bronchopneumonia, within twenty-four to forty-eight hours after beginning the administration of the drug.

SUMMARY

Preventive pediatrics is fundamental and adds much to the solution of many of our everyday pediatric problems. Both the preventive and curative phases of pediatrics are essential to the development of a well-nourished child. Suggestions are made for the dietary, medicinal and other methods of treatment of the gastro-intestinal diseases. The importance of fluid intake is emphasized. Blood transfusions are very essential in the management and nourishment of the seriously ill and poorly nourished infants and children. The value of sulfanilamide in the treatment of many septic conditions is pointed out. Special prescriptions and suggestions which have proved valuable to the essayist for the relief of certain diseases, are given for the treatment of vomiting, diarrhea, bronchitis and other problems. Special mention is made and enthusiastic praise is given for the value of sulfapyridine in the treatment of pneumonias.

Finally, if the doctors of our state will work together, using all the means and methods at our command of both **preventive and curative pediatrics**, we may fulfill our obligation to . . .
"Nourish the sapling to make strong the tree;
What the child is, the man will be."

DISCUSSION

DR. LAMAR ARRINGTON (Meridian): I wish to commend Dr. Garrison on a well chosen subject, and Dr. Anderson for having had him on the program. I think we need one like it every year because it seems that our practice in pediatrics, as he has shown you, is improving, but not as much as it should. You have noted that the greatest mortality was in the first 24 or 48 hours of life. Personally, I think that this is due to two causes, intracranial hemorrhage and asphyxia. The doctors use too much pituitrin and barbiturates. Of course, you cannot blame a country doctor who is delivering a charity case that is dragging, and gets a call to come to one of his good patients about thirty miles away. However, I do not think they should ever be given before the second stage of labor. The city doctor wants to have a painless delivery, so he gives large doses of barbiturates, and even morphine in the second stage of labor. When these things are corrected our infant mortality will be lowered considerably.

I am going to have to criticize Dr. Garrison a little, as I do not believe in his calomel and castor oil. I think they have killed more people than all of the communicable diseases combined. We will have to educate the doctors first, as they still prescribe and keep these in the patients' minds. I know a doctor in Mississippi who says that as soon as he makes a diagnosis of appendicitis, he gives an ounce of castor oil every hour until patients are relieved of pain. You well know the results.

During the past eight years I have averaged from 20 to 30 infants and children with colitis in the hospital during the summer months. I lost many of these patients due to the referring physician giving them one or two throughs of purgative. I think that giving purgative of any description to these children is criminal. They do not need it; it does not do any good and we know it is harmful. Doctors may say that they are unable to tell whether it is a simple diarrhea or dysentery, as they cannot make a culture. I have found that when you get mucous, blood, and lots of pus you have a colitis or dysentery. You can also tell the parents that it will take at least 3 to 6 weeks to get well. We have educated the people that it takes from 3 to 6 weeks to cure a case of typhoid, but they still think that a case of dysentery should be well in a few days. Let us educate them. Another grave mistake that so many doctors make is to feed patients only rice water and strained cereal. They cannot live 3 to 6 weeks on that. You have to keep up their nourishment with infusions and blood transfusions, as well as feed them an easily assimilated diet, regardless of the number of stools they are having.

The thing that worries me in Mississippi medicine is that we are not getting these things to the doctor who needs to know them. How are you going to get to him? We have several programs started, and as Dr. Underwood said on Monday, we have to keep studying and attending meetings. We have field workers and they go out—they come to Meridian—but they cannot go to all places. Many doctors do not come into contact with these workers, nor do they attend the medical meetings. How are we going to spread the news and teach these doctors what we know? We have to get educated ourselves, as I expect half of you still give calomel and castor oil.

Dr. Van C. Temple (Hattiesburg): I also want to compliment Dr. Garrison on this splendid paper. He brought out so many problems seen every day by the general practitioner. Most of these problems in the beginning are little, simple conditions that require simple treatment, but if they are badly handled or neglected they will nearly always lead to disaster.

The paper is just so full of good common sense that I wish that every general practitioner in Mississippi could get hold of it, and I hope that he will have reprints made and sent to every man in Mississippi that treats babies.

I am not going to cover much of the discussion. I do not want to spoil his paper by talking too long about it, but I would like to bring up a few points just for emphasis. The first is on the question of immunization, and it is a fact that we doctors have badly neglected the immunization of children and have run it into the health department. They have to do it. Some one has to do it and if we don't, they have to see that it is done. I don't think we have any quarrel with them at all on that subject, but if you will in your own practice work on the immunizations, you won't have any trouble immunizing, and you won't have any trouble charging and collecting for it. I know I add quite a bit to my income every year by giving immunizations for whooping cough, smallpox and diphtheria.

The tuberculin test is very seldom found in pediatrics. Most of us have neglected it a good bit. One reason is we hate to stick these babies, but there is a patch tuberculin test which has been developed and is on the market—several concerns make it. I think it is excellent and I am giving it. It is a little strip of tape put on the baby's chest; take it off in 48 hours and go back in 24 hours more and read it. I think the results are just as good as any intradermal test. In the cases of vomiting and diarrhea they are often due to some respiratory infection, and when you get a baby that is vomiting, or has an upset stomach, examine the baby carefully. You often find some trouble in the ears or throat that is causing that trouble. I have not found it necessary to use calomel in the baby. I do not know, but I believe that Dr. Garrison's prescription would work just as well if he left out the calomel, the small amount he puts in. I think in a gastro-intestinal disturbance in babies, particularly the simple diarrheas, if you will keep in mind two fundamental principles and carry them out—I won't argue with you on what kind of treatment you use, but you must in the beginning give that baby's stomach sufficient rest: no food for 12 to 24 hours or longer if necessary, and maintain the fluid balance and acid basis balance of the body. If you will just remember those two things in treating gastro-intestinal disturbances on children I think you will stay on the right track.

In the respiratory infections the main trouble we run up against in Mississippi is the handling of the ears, and that will give you a lot of trouble. I think every general practitioner ought to have an electric otoscope and learn how to use it. The only way to tell when the ear is inflamed is to examine the ear of every baby you see. The pediatricians do not look for symptoms of ear trouble. They just look at the ear, and see how it is and the only way to find out about it is to look at the ear and get accustomed to looking at it.

I enjoyed Dr. Garrison's paper very much. It is really a good course in just common sense—everyday information, and I hope he will get a copy of this paper into the hands of every general man.

Dr. D. W. Jones (Jackson): I came in a little late and did not hear all of Dr. Garrison's paper, but without criticizing or doing anything at all, I just want to add a word of commendation of the value of such a paper. It is not too long—just long enough.

I say to you that Dr. Garrison is a very successful practitioner in Jackson, in spite of his calomel, and if I had to comment on that I would split the difference—I only give them a tenth of a grain instead of a fifth.

The subject of immunization I think we should emphasize more and more. The only way we can ever get down the incidence of contagious diseases is by education and organization, and we ought to keep it constantly in mind, because the mothers do not know it.

I want to say just one word about his salve. You know I run across it in my practice in Jackson often. As a matter of fact, Garrison's salve has nearly put Vick's and goose-grease out of business.

Dr. Rice Williams (Houston): I reckon I will have to rise to a question of personal privilege. In 1923 I quit the general practice and went into the x-ray business, and in a few years these specialists come along, and I reached the conclusion that I did not know a thing in the world and never did know anything—never had an opportunity to learn anything about any of these things. Our favorite prescription was one-fifth of a grain of calomel, and if the baby was too ill a one-tenth and then a little while after that another small dose. By the time I quit practicing, and a little later on, we were taught calomel was a very dangerous drug to give to anybody at any time and I am glad we are getting back. He says he is getting old, and one of the signs of old age is when you take up something that has been used a few thousand years before and think you have discovered it. Another way you can tell when a man is getting old is when the men brag on him. As long as he competes with them the men don't do that—and when the women won't kiss him until he gets where he doesn't get any kick out of it.

Now I come to that chest business. I want to tell you a little story in connection with that. I listened to him very carefully, and I thought I was learning something and when he was giving his different prescriptions, I was doing my best to memorize them. I was going to go back and tell a young doctor who is just starting out with us, what the specialists were doing in Jackson, and I was reminded in the final wind-up of a story about an Indian and a missionary. The missionary was trying to convert the Indian, and the first thing he told him was about Jonah and the big fish. The Indian argued with him that he just didn't believe it. The missionary was a high-pressure man and he finally made him believe it. Then he told him about Samson tearing the bear to pieces, but the Indian didn't believe that, though finally he convinced him of that. Finally he told him about the three Hebrew children in the fiery furnace, and they went through that hot furnace and did not smell any fire even on their clothes. The Indian said, "No smell fire on clothes?," and he said, "No," and the Indian said, "Indian couldn't smell fire on their clothes?," and he said, "No." Then the Indian said, "Indian don't believe that fish story now," and I am backing up when he told about putting his salve on the chest.

When I came on the scene of action and first began practicing that was one of the things I thought I ought to combat. I used to challenge them this way—they wanted to tie that old sock around their neck, but it had to be a sock Father had worn all the week—an old, dirty sock, and I had many an argument about it and I finally adopted this plan. I said, "Let's run a series on it. You grease Father's chest one night, and the baby's the next and see if you don't get along as well one time as another."

Speaking about the colon, I remember one time a poor man who could not pay called me out of bed one rainy night. After I got there and had started to examine him, he said, "Dr., I know what I need—I just need some calomel and quinine. If I had had that, I wouldn't have sent for you."

Dr. McKinnon (Hattiesburg): I could not pass up a chance to discuss a paper by my good friend Garrison, who was a school-mate of mine and has been a very close friend since those days. Obviously the pathology of child welfare begins with the conception of the child, or the fusion of the two organisms—the male and the female. Unless we give our patient proper prenatal care, undoubtedly we won't get a healthy child that the mother expects and that she should have. So with the proper prenatal care it matters not how it is carried out—by county nurse, or you yourself personally—I prefer my own prenatal care. I have my patients come in weekly or every other week, check them myself, and I am sure of their condition, and oftentimes we catch little things that would be serious if they were allowed to go on. If our patients carry an arthritis or albumin, naturally that child is going to suffer the consequences, so let's pay special attention to our prenatal care.

Then the next word is patience in delivery. I think we are doing a lot of head injuries and causing a lot of aftermaths and causing the death of a lot of infants during delivery or in the first 24 hours after delivery by our impatience in our obstetrical work. The most that I am going to say is going to apply to this one subject of delivery. I think if we do not give pituitrin until after the delivery of the placenta and a number of other things we are using now in order to enable us to meet other engagements we may have thought would be a little better for our practice, our babies would be better off, and no doubt many miseries would be prevented. Therefore, let's either quit obstetrics or give each individual case time to take care of itself. If you know the presentation and the relation of the different parts to the passage out of the mother, then you can expect an abnormal or a normal child. If you are doubtful about it, the x-ray will clear that up, and if you have a normal presentation and the head in proportion to the outlet, then give nature a chance to bring that case through. If by chance the head comes down and enters the pelvis and it is lodged for lack of impulsive force, why then you are justifiable in making some effort to help this mother out for I am not advocating the continuation of a long labor. We always consider the danger of shock from appendectomy or whatever the operation may be and never mention shock in an obstetrical case. Why not? If this mother is in hard labor 8 or 10 hours why isn't that patient entitled to be respected as a shock patient? So I think we often overlook a lot of obligations that we owe to our mothers in these cases by not giving them the proper attention soon after delivery. Personally, I never like to apply instruments because I do not think I am capable of applying instruments in many cases without doing injury to the soft parts of the mother or indeed to the baby. Then too, if we can deliver a perfectly healthy baby it is our duty to this baby to give him an inspection immediately and see that he is perfectly normal, and if he is, prescribe a routine procedure for the little fellow for the first few hours or first few days, because the first few days are vitally important. To give 10 drops of castor oil on the second morning after birth is a good idea—that gets him ready for his process in mastication, and then feed the baby to prevent the temperature a good many of them run on the second or third day. I do not know that babies fed are void of that temperature, this little dose of castor oil will remove the most of the mucosin from the alimentary tract. The baby should be kept from the breast until after eight hours, then put on a six-hour schedule in order to get the colostrum out of the breast, and by the time the milk comes in this child is ready to receive the food. Somebody said never use a spoon. I agree with him thoroughly, but I do not let my babies have a bottle in the hospital. A medicine dropper is just as convenient and they can give his water and his milk with a medicine dropper, and then when he is put to the breast he responds to a natural process in nursing his mother's breast, instead of being spoiled by one of these long hospital nipples. Babes are just as easily scheduled and their lives just as easily regulated as can be. If you are positive in carrying out your schedule, you have no excuse for a sick baby. Usually it is the ignorant people and those who have no planned schedule for the management of their children that give us our trouble.

As to their treatment, every man has his own idea. I give little doses of castor oil and no more purgative, so I think the diet is especially necessary. In the dysenteries 24 hours' starvation and then a modified but a masterful feeding, well-planned well-cooked, cereals and vegetables and what not, because if the little fellow becomes dehydrated on account of the starvation then what can you expect but a continuation of sickness? Let's plan our schedules for our babies to prevent these conditions instead of having to cure them after they come.

Dr. Joe E. Green (Laurel): I see Dr. Moore back there and if you want a real course in pediatrics just listen to him. The first year I went up there I had been having lots of colitis; I gave them castor oil every night, and the next morning we just knew they were going to be better, and when we would see the bowel movement we would say just look how he is passing off the cold, not knowing we were just stripping the lining of his bowels. Those little babies got well in spite of my treatment and in spite of a lot of your treatment as well. I listened to those fellows and I didn't know what to believe. I came on back home and I began to practice. We all have Garrison's salve, but Green's pneumonia salve is the best made salve in Mississippi. When they start out with fever 105°F., and bowels moving every few minutes, eyes rolled back and skin dry—they all used to die. I don't think they all die now and the treatment that has been satisfactory is feed them and water them and let them alone. And, gentlemen, if you are out in the country, if you haven't got a nurse in the home, take him to the hospital somewhere in your county, fill him up with glucose and saline.

Dr. Owen Moore (Charlotte, N. C.): I was about to say when you offered me the floor, that I was in exactly the position that Dr. Padget said he was on being asked to discuss Dr. Waldron's paper, that we resembled Mark Antony when he came to see Cleopatra, "I came not here to talk." I have come to listen today and not to talk, but so much of it was down my alley—one-half of the paper at any rate was designed to show the inseparable relationship between obstetrics and pediatrics — that I feel I must say a few words. The amazing statement he made, quoting statistics from your own state, is exactly parallel to the national statistics with regard to the percentage of deaths; for instance that 50% of the babies who die the first year of life, die in the first month of life, and 25% in a much shorter time than that. You will place the burden upon the shoulders of the obstetrician who cannot fairly shove it to others; in other words, in the vast majority of instances I imagine that the child does not reach the hand of the pediatrician, nor is it put under the supervision of that specialist's care until it is much older, in which time it has already passed into the fatal column. If death occurs in the first two weeks and six days, it is almost inescapable that it is an obstetrical death. Now that is not a fair statement to make because a great many of those babies have not had a medical man in attendance, but in the cases in which there was every opportunity to observe the patient in her prenatal period and during delivery and then this death occurs, the vast majority are due to something we have done or failed to do. And when we look at the statistics on infant mortality in the first year of life and discover that it runs somewhere like 58 and 60 deaths per 1000 of living births and when in my own good state of North Carolina, in the town in which I live, we ran 55 deaths—we cannot take any credit. Also when we recall that in the county in which Asheville is located, where we proclaim that nobody ever dies, and we have to shoot them on Judgment Day, they have 77 deaths in the first year, as compared to Australia where they have 8 deaths per 1000, one wonders why America with all its manifold blessings has that enormous death rate, then we know that something is wrong somewhere. And as Dr. McKinnon points out the problem at once falls into our hands and must be adjusted. I do not believe that there has been any accurate statistics to prove that the barbiturates have produced many deaths. I do remember that old Dr. Rudolph H——— who prides himself on having introduced twilight sleep in America in 1903, claims today that he wishes he had not done it. I have talked to him often and he was sure he had killed thousands of babies that should have been alive.

There is very little proof in obstetrical history that properly used analgesia has done much damage to babies. We may have babies who are blue babies, who require removal of mucous from their throats, but there is very little proof that they die earlier than the ones who do not have this. I am not here defending anything but the legitimate use of the analgesias, and I think they ought to be employed under the supervision of competent nurses and that the doctor in private practice can not afford to give large doses and come off and leave his patient. Consequently, my statement is wouldn't it be perfectly natural that the use of these analgesias be confined largely to institutional practice?

With regard to immunizations I know absolutely nothing except that which is employed by the men with whom I have been associated in practice. It is our schedule and routine that as soon as the baby is delivered, in four days, it is turned over to the pediatrician, if it is a perfectly normal baby and nothing is needed the pediatrician makes the record, files it in his office and in due season if the mother has occasion to see the the pediatrician she has access to the record and knows all about it. The schedude of immunization as outlined by the essayist is usually followed at once.

I come back again to the fundamental statement that the pediatrician and the obstetrician are necessary to each other, and rightfully should be; that by no other fashion can we hope to reduce this enormous, appalling and somewhat disgraceful death rate in America. I happened to be a member of the White House conference which you may recall was one of the last acts of President Hoover, when he called the pediatricians and obstetricians in to determine what was the cause of the death rate in America. There were 100 of us called to Washington. We stayed for three days and told each other exactly what you have been telling each other this afternoon. We told each other why they died, and the public health workers told about environment conditions that produced these deaths. The aggregate of our conversation filled 60 large volumes; this was printed and is now available to any of you who would like to get it for $90.00. So far as I know there hasn't been a sale of a single copy.

I was also on the committee of nine men, three pediatricians, three obstetricians and three public health men who were appointed by the Southern Medical Association to digest that 60 volumes and to reduce it to plain words and brief. We also sat in Duke University for three days reducing it to a pamphlet of about 300 pages. I do not mean we read all of that 60 volumes; by no means. So far as I know I have never seen a copy of either, although I can heartily recommend it as a brief digest of every conceivable thing under heaven.

Now you said that sulfanilamide acted spectacularly and miraculously; that is just how it does act. It acts so well in that line that I wonder if it isn't almost too good to be true? It is now a panacea, but it may turn out to be a pan of dish water tomorrow. However, it has stood up in almost every type of disease and I am sure it is going to be a most powerful adjunct to our treatment of children. Now, like Mark Antony when he left, I say, "I have enjoyed being here."

Dr. Harvey F. Garrison (closing): I appreciate very much the wide variety of discussion. I had hoped to get it and did. Dr. Arrington, the first man who discussed the paper, I am delighted to say agreed with me on most everything, as well as Dr. Temple. I always like to have the fellows who are doing the same kind of work I do to agree with me.

In regard to something that apparently must not have been understood. I emphatically and most specifically said not to give large doses of calomel. Now, gentlemen, when it comes to a few cases of vomiting in children—not in babies — unless they are largely infectious, where you have eliminated these things, I mean you are never going to do any harm with one-fifth or one-tenth of a grain.

I greatly appreciate all the discussion. Thank you.

Lymphogranuloma Venereum: A Review

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INTRODUCTION

LYMPHOGRANULOMA venereum is a common venereal disease, and is found chiefly in the lower strata of society. Having had the opportunity of working in two large Southern hospitals most of whose patients are of this class, we have seen a large number of these cases in all stages of the disease. The general knowledge thus gained forms the basis of this paper.

HISTORY

The history of lymphogranuloma venereum as recognized as a specific disease is quite recent; it was only in 1925 that Wilhelm Frei[21] published his diagnostic test, and lymphogranuloma venereum became an absolute disease entity. Korblith[37] stated that in 1786 John Hunter recognized the "climatic bubo" as a separate and definite clinical entity, and that in 1865 Trousseau suggested its venereal origin. In 1859 Chassaignac described an inguinal adenitis which well might have been lymphogranuloma venereum, and in 1848 Huguier considered the possible relationship of the disease to vulval elephantiasis and benign stricture of the rectum, quoted by Thompson[63]. Even so, when Durand, Nicholas, and Favre[19] brought out their paper in 1913 clearly setting forth the infectious nature of the disease and describing many of its clinical manifestations, studies in the disease were not frequent; and it was only after the introduction of the Frei test in 1925 that lymphogranuloma venereum began to attract attention. Since then the literature on the subject has become overwhelming, e.g. in 1926 the QUARTERLY CUMULATIVE INDEX TO CURRENT MEDICAL LITERATURE listed only three papers on the disease; while in 1936 the QUARTERLY CUMULATIVE INDEX MEDICUS devoted five and one-half columns in listing the papers produced on lymphogranuloma venereum for that year; so we are faced now with the task of not only continuing work toward a wider knowledge of the disease, but of also sifting a voluminous literature, and preserving the accurate and valuable while discarding the erroneous and worthless.

Meanwhile, the name of the disease has evolved from merely being considered along with several other diseases as the venereal disease, to tropical or climatic bubo, to Nicholas-Favre's disease, then lymphogranulomatosis inguinale, lymphogranuloma inguinale, lymphopathia venerea, and finally in 1937 the American Medical Association designated the term lymphogranuloma venereum the official name for the disease.

BACTERIOLOGY

Lymphogranuloma venereum is now quite definitely proved to be a virus disease. The virus is filterable, passing through a Berkefeld "N" filter, and through the Chamberlain candle L3; after forty days the virus is no longer infective; drying and glycerin are not well tolerated, but with the exception of U. S. P. formaldehyde it is fairly resistant to the usual antiseptics. It is destroyed by heating to 60 degrees centigrade, and may be attenuated by phenol and sodium ricinolate in 1-1000 concentrations. It is of interest to note that Sulzberger and Wise[58] found that the virus may be preserved for ten days at 3 degrees centigrade. Tamura [59, 60] has been successful in cultivating the virus using sterile guinea pig kidney or liver in Tyrode's solution, and incubating the culture aerobically at 37.5 degrees centigrade; growth is shown by a clouding of the media which occurs within 36 to 48 hours; this cloudiness may be transferred from tube to tube.

The first successful animal inoculation by the virus of lymphogranuloma venereum was reported by de Ballard[41] in 1924 using monkeys for the experimental animal. Since then many successful reports of animal inoculation have been reported. In 1935 D'Aunoy[13] and his colleagues reported the isolation and successful animal passage in seven cases of lymphogranuloma venereum, and in 1936 they[11] stated that they isolated 35 "strains" of the virus. Levaditi[38, 39] and his colleagues, after carrying the virus through a number of passages through monkeys, succeeded in reinoculating human subjects with positive results. Using Frei-negative human beings, Wilmoth[73] recently infected one person by intradermal and subcutaneous injections of the artificially grown virus.

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As further evidence of the virus etiology of this disease special types of granulocorpuscles from the lesions of lymphogranuloma venereum have been described, Miyagawa[45] reporting spherical bodies 0.3 micron in diameter staining with Giemsa's stain, and found both intra- and extra-cellular; he has succeeded in cultivating these bodies by tissue culture methods and also on the chorio-allantoic membrane of chicken embryos; they may also be inoculated into mice with positive results. Coles[4] likewise describes inclusion bodies found in the dried pus aspirated from buboes; after staining with Giemsa's stain he found two types of bodies: (a) Gamma Favre bodies in large lymphocytes but not in polymorphonucleoytes, which are round, oval, or somewhat irregular in shape, and vary from one to four microns in diameter and stain almost black; (b) virus bodies—round or oval redish staining bodies usually found single, sometimes in pairs and rarely in short chains. We have found the larger bodies described by Coles in two cases. Using Hosokawa's stain, Tamura[59, 60] has stained the artificially grown virus.

Pathology

The pathology of lymphogranuloma venereum, while fairly typical in the acute stage, is not pathognomonic. Early the excised glands are red, enlarged, and firm; later they undergo liquifaction and are less firm. On section tiny pin-point abscesses are found. Culture of the pus from these glands by the routine methods is sterile. Old lesions are even less characteristic grossly, showing only chronically inflamed fibrous tissue; and in the negro there is frequent depigmentation of the overlying skin.

Microscopically the picture may be highly suggestive in the acute stage, but even then is not absolutely diagnostic. Essentially, it consists of micro-abscesses containing considerable necrotic debris, surrounded by one or two layers of epithelioid cells arranged in palisade formation. Often one sees giant-cells, but they usually resemble the foreign body giant cell, rather than the tuberculous type. Perivascular infiltration is also found, but this usually means that the lesion is approaching the chronic stage. The older lesions are not at all characteristic; here the abscess formation is replaced by fibrosis, with an infiltration of lymphocytes and plasma cells. Perivascular infiltration of chronic inflammatory cells is frequent; not uncommonly one finds that the arteries show varying degrees of proliferation of the connective tissue of adventitial and subendothelial portion of the vessel; also occasionally infiltration of the walls by small round cells is seen, and at times one may see narrowing of the lumens even to the point of occlusion. Finally, special staining methods fail to clench the diagnosis, for no organisms are even found. However, one may usually make potent antigen from these tissues and thus be certain of the diagnosis.

Diagnostic Material

The Frei test has now become a standard diagnostic method in this disease. Antigen prepared by the original method that Frei used has proved adequate. Using sterile technique, an unopened bubo from a case of lymphogranuloma venereum is aspirated or tissue removed at operation is macerated, and then diluted 1:5 with physiological saline. It then is heated to 56-60 degrees centigrade for two hours one day and for one hour at the same temperature the next. It then is tested for sterility by the usual methods and if found to give no growth, is ready for standardization. This is done by using several known positive patients and several known negative ones. These patients are then injected intradermally with 0.1 cc. of the new antigen, and with a similar amount of a known potent antigen. The reactions are read at 24, 48, and 72 hour intervals. If the new antigen corresponds with the known antigen, it may be considered as standardized and is then ready for use. The antigen probably retains its potency indefinitely. Hanschell[30] found that the antigen was still potent after three years.

The use of other material than the antigen made from the lesions of human subjects, as originally described by Frei for diagnostic purposes, has been reported. The most prominently discussed of these antigens is that made from the brain of animals previously infected with the virus of lymphogranuloma venereum by intracerebral inoculation; in this connection the white mouse has become the standard laboratory animal. This type of antigen has been strongly recommended by Grace and Suskind[25, 26, 27], of New York, and by von Haam[41] and his colleagues in New Orleans, while being soundly condemned by Strauss and Howard[57], of New Haven. Recently Mesbrobeanu and Bruckner[42] have done work which favors the results by the New Haven group. Tamura[59, 60, 61] offered two modifications; one is an antigen made from the cultivated virus[59, 60], and the other the use of the serum from a goat previously immunized with the cultured virus of lymphogranuloma venereum, reporting that this latter reaction can be read in about twenty minutes and that it is highly specific[61]. In 1935, Reiss[52] reported a diagnostic reaction in which the blood serum obtained from a patient in the acute stage of the disease was used for intradermal testing; however, Haynes[31] was unable to duplicate this result and concluded that the substitution of serum obtained from an active case of lymphogranuloma venereum for the original Frei antigen was unsatisfactory. Coutts and Ponce[7] have introduced a complement fixation test which they stated becomes positive within twenty to twenty-five days after the onset of symptoms. Finally, Paulson[47] has succeeded in making a potent antigen from the bowel in cases of colitis apparently due to the virus of lymphogranuloma venereum. Our experience has been only with the antigen as originally described by Frei; therefore, we can offer no discussion as to the value of the various other procedures described above.

The standard Frei test is now firmly established as being very sensitive, and when performed with antigen of good quality in the correct manner and properly interpreted it is highly specific. Bacon[2] stated that it is 96.7% diagnostic; Flandin[20] and Turiaf reported it as being positive in 97% of 400 cases that were clinically lymphogranuloma venereum, and considered the reaction one of the best of all biologic tests; while in 547 clinical cases of lymphogranuloma venereum D'Aunoy and von Haam[12] found the test 90.9% diagnostic, 7.2% doubtful, and 1.9% gave faulty results. De Blasio[15], however, denies the specificity of the Frei test, finding it frequently positive in both human beings and in experimental animals with active cases of tuberculosis; therefore, he concluded the reaction has been greatly exaggerated and that it is by no means specific; incidentally, all his antigen was made from monkeys. Hanschell[30], although finding the test useful, does not have absolute faith in it. It is of interest to note that Pavanti[48] cited a case with a typical history for lymphogranuloma venereum, but repeated Frei examinations were negative. Nevertheless, antigen was made from the excised glands, and was found to parallel exactly results given by known antigens, but did not cause a reaction in the patient. It is our opinion that the Frei reaction is highly specific and diagnostic of lymphogranuloma venereum. and is probably one of the most sensitive biological tests used today.

CLINICAL PICTURE

Lymphogranuloma venereum is a specific venereal disease due to a filterable virus; once thought to be purely a local disease it is now accepted to be the cause of certain widespread disorders, thus putting it in the category of a systemic infection.

Coutts[6] divides it into three stages; and while there is some overlapping, these periods are fairly well defined.

The primary or incubation period is usually difficult to determine as evanescence characterizes the primary lesion, and usually the patient does not seek medical attention until it has faded. Cole[5] gave the incubation period at from a few days to three weeks; and Coutts, Thompson, and Clyne[6, 63, 3] all agree with him; this likewise has been our observation. Incidentally, Wilmoht[73], after experiments on human subjects, has concluded that lymphogranuloma venereum is seen less frequently than syphilis and gonorrhea because of the relatively short infectious period—probably during the stage of the primary lesion.

The primary lesion of lymphogranuloma venereum has been described as being of five types[63]: (a) ulcerative, (b) nodular type, (c) papular, (d) lymphogranulomatous urethritis, and (e) hepitiform or vesicular type, and is usually singular, but may be multiple. We have seen the lesion only in the male, and in the vesicular form. It was a painless, single lesion 3-5 mm. in diameter, which on rupturing exuded a clear, colorless and odorless fluid; we have always found the lesion on the prepuce or coronal sulcus of the glans penis; it lasts from three to seven days, healing spontaneously without therapeutic measures, and leaves no scar. Extra-genital lesions especially involving the tongue have been described[9], but personally we have failed to observe any such lesions.

Following the appearance of the primary lesion the constitutional symptoms become evident; these include headaches, lassitude, malaise, anorexia, lower backaches, vague arthralgic symptoms, anemia, and loss of weight; the fever that accompanies this involvment varies from 101 to 104°F. Thus the picture is that of a mild sepsis—but blood cultures, by the ordinary methods, are always negative —and lasts from one to three weeks. As further proof of the systemic distribution of the virus, von Haam and D'Aunoy[66] have reported success in infecting white mice with the virus by intracerebral inoculation of spinal fluid obtained from acute cases of lymphogranuloma venereum. On the spinal fluid Clyne[3] found frequent rises in pressure, increased cytology, and abnormalities in the gold curve reactions; while Coutts[6] in nine cases found the spinal fluid to be normal in every case.

Thompson[63] quotes Kitagawa as having a constant peripapillary edema and tortuosity of the vessels in the eye grounds; Clyne[3] observed fourteen cases and found that ten showed moderate venous congestion and some blurring of the optic disc; likewise, Coutts[6] has found definite changes in the eyegrounds associated with lymphogranuloma venereum. In a number of cases that we have examined we have failed to find any changes in the eyegrounds that we felt could be definitely contributed to this disease.

It has been shown that certain cutaneous lesions might be associated with lymphogranuloma venereum. Thompson[63] mentions erythema nodosum; Coutts[6] adds erythema multiforme; Midana[44] described a case of ecthymatous pyoderma; and von Haam and D'Aunoy[67] a similar case. Finally, Goldberg and Fonde [24] summarize the dermatological manifestations of lymphogranuloma venereum thus far described as follows:

a. Erythema multiforme
b. Erythema nodosum
c. Papulopustular pyodermitis
d. Lichenoid eruptions
e. Indurated plaques
f. Zosteriform manifestations

The frequency of these dermotropic reactions in lymphogranuloma venereum is not definitely known; Saenz[55] noted it but once in twenty-eight cases of lymphogranuloma venereum; however, quoting Hellerstrom, and Nicholas and Favre, he stated that the former found this condition in forty-seven cases or 8.5% of one series, and that the latter two writers found it in 20% of their series. Thus far we have failed to note a single case with skin manifestations.

The disease now enters the adenitis stage. In the male this is characterized by inguinal adenitis. The onset is insidious; at first only superficial nodes are involved, but the inflammation spreads and the deeper glands become infected. The patient walks with difficulty due to the pain, and tenderness is marked. At this stage the overlying skin takes on a characteriatic reddish violet discoloration—which certain writers believe is pathognomonic. If allowed to progress the overlying skin eventually breaks down and multiple sinuses discharging greenish-yellow pus develop. This drainage in untreated cases may continue for three to six months before healing takes place with profuse scar formation. As a tertiary manifestation of lymphogranuloma venereum in the male we have frequently seen elephantiasis of the penis and scrotum.

In the female the inguinal adenitis is the exception rather than the rule, as here only the vulva lymphatics drain to the inguinal nodes, while the vagina and cervix drain toward the rectum. For this reason the deep pelvic and perianal lymph nodes become involved, and later give rise to the chronic indolent forms of the disease, as esthiomene, rectal stricture, etc. As a counterpart to the adenitis in the male acute pelvic inflammatory disease has been described in the female by D'Aunoy and Schenken[10].

The relation of lymphogranuloma venereum to benign rectal stricture has been widely publicized since Frei and Koppel[22] first considered it in 1928. However, in 1920, Jerslid (quoted by Cole[5]) believed that the ano-rectal syphiloma of Founnier was due to lymph stasis and not to lues. Except in cases of sodomy, almost all these strictures occur in the female. Pennoyer[49] out of twenty-two cases of benign stricture of the rectum found that 81 per cent were Frei positive; Lichtenstein[40] lists the following reasons for believing that the vast majority of benign rectal stenoses are of lymphogranulomatous origin:

a. At least 90 per cent of such cases are Frei positive.

b. Pus from the fistula-in-ano which so often accompanies the rectal involvement has given positive intradermal reactions in other patients suffering with lymphogranuloma venereum. In this connection, he quotes Nicholas, Lebeuf and Charpy, stating that he and his colleagues have confirmed this work.

c. Pus from the fistula-in-ano may produce lesions in experimental animals indistinguishable from these resulting from the use of material obtained from the unopened bubo of lymphogranulomatous origin.

d. Pathologically the lesion in no way resembles that of syphilis; but rather is a non-specific, chronic, inflammatory reaction with lymphatic involvement.

Symptomatically with the development of the stricture one finds a patient complaining of progressive chronic constipation. We have seen a number of cases of rectal stricture associated with pellagra and severe secondary anemia, all of which respond to routine therapy. Lichenstein[40] reported eight cases of pellagra associated with lymphogranulomatous strictures, and because in the majority of cases the onset of the stricture preceded the pellagra, he contended that the pellagra played no part in the development of the anorectal syndrome, but rather the converse was true; i.e., the patient usually of the poorer class and already living under adverse economic circumstances, did not normally get a well balanced diet; and with the development of the stricture the digestion of even this meager fare impeded, resulted in a vitamin B_2 deficiency and subsequently pellagra. Garret[23] in a report of a series of pellagra cases found one case of rectal stricture; in this case the Wassermann was negative, and the Frei reaction suspicious. His explanation and opinion was quite similar to that of Lichenstein; and we share the same belief. Objectively in these cases we find a firm stricture that may be either band-like or tubular, situated 3 to 6 cm. from the anal orifice. Examination frequently causes considerable pain.

Lymphogranuloma venereum may involve the female urethra with disastrous results. Gray[82] reviewed the literature on the subject, and reported eleven cases; these cases were all chronic, and took one of three courses: (1) chronic urethritis, (2) stricture formation and (3) severe ulceration with subsequent destruction of the entire urethra. We have seen strictures of the urethra in female patients with positive Frei reactions and other evidences of lymphogranuloma venereum, but we cannot be sure of the exact etiology of these strictures.

The relation of elephantiasis of the vulva to lymphogranuloma venereum has been definitely established. We have found this condition many times, often associated with rectal stricture. Dorne and Zakon[18] summarize the literature on this phase of the subject and recommend vulvectomy. Wien and Perlstein[69] also consider the subject. Until a short time ago it was generally accepted that the tertiary symptoms of this disease, e.g. esthiomene, peno-scrotal elephantiasis, rectal stricture, etc., were but sequelae of the lymph stasis following lymphatic obstruction, but many writers now incriminate the activity of the virus on the involved tissue and maintain that the virus is alive and active even in this late stage[6, 18].

There are a number of unusual sides to lymphogranuloma venereum that should be considered. We have already mentioned the extra-genital lesions, especially those involving the tongue and cervical glands, and the occasional association of this disease with pellagra. Coutts and Vargas-Zalazar[8] describe four cases of non-specific epididymitis which they believe to be of lymphogranulomatous origin. Von Haam and Hartwell[68] discuss experimental conjunctivitis and mentioned episcleritis reported by various German and French writers caused by the virus of lymphogranuloma venereum. The relation of this infection to sterility has received but scant attention. Dick[17] stated that most women in the late stages of lymphogranuloma venereum are sterile; in the same paper he reported two cases showing the possibility of intrauterine transmission of the disease. In this connection the possibility of salpingitis being caused by this virus has been discussed, and may account for the frequency of sterility associated with this infection. However, we have seen at least two cases of this disease in which the woman became pregnant. One of these cases has been reported[43]; incidentally, Frei tests on this patient's child were negative. David and Loring[9] consider a case of meningo-encephalitis which they believe might have been of lymphogranulomatous origin; in this same paper they mention a case of ulceration of the colon which later went on to rectal stricture formation, and developed a positive Frei reaction.

For the most part, the usual manifestations of lymphogranuloma venereum are inguinal adenitis, esthiomene, and rectal stricture; however, certain uncommon forms of the disease as mentioned above must be considered.

Laboratory Findings

A. Blood Picture:

The hematology of lymphogranuloma venereum has been described by various writers on the subject. Wilmoth[72] stated that there is no characteristic finding; in his series the white blood count averaged 12,700 with about 70 per cent polymorphoneuclear neutrophils; the red blood cell average was 4,300,000 and hemoglobin 83.3 per cent. Ravaut[50] and his colleagues reported the leucocytes at 10,000 with a mononucleosis; they found that the eosinophils were infrequent, and that the basophils were rare. De Wolf and Van Cleve[16] gave the white blood cell average as from 10,000 to 12,000, with an increase in the large mononuclear element. Coutts[6] found eosinophilia frequently, and called attention to the fact that outside of Chile this finding is rarely reported. Thompson[63] is of the opinion that eosinophilia is constant, and sets the leucocyte count at 10,000 to 12,000 with a definite increase in mononucleal cells. Clyne[3] found that 34 of his 48 cases developed a leucocytosis of 10,000 or more, with an average white blood cell count of 13,000, also that 15 of his patients had between 80 and 90 per cent polymorphonuculear neutrophils; an eosinophilia from 3 to 14 per cent was frequently noted. For the most part, we have found the blood picture in this disease to be of little diagnostic value. It is usually associated with a leucocytosis of 10,000 to 15,000 in the early stages; in the older cases the white blood count is usually essentially normal. We have found that a secondary anemia is almost constant in all stages of the disease, but as all our patients were from a lower strata of society, the possibility of this being a nutritional anemia must be considered.

B. Total Blood Proteins and Takata Ara Tests:

As far back as 1916, Rowe[53] reported a case of inguinal adenopathy of unknown etiology with a hyperproteinemia. There is a possibility that this was an undiagnosed case of lymphogranuloma venereum; however, it was only recently that Williams and Gutman and their colleagues[29, 71] described hyperproteinemia associated with a reversal of the albumin-globulin ration in this disease. Recently, Jones and Rome [35] found that 64 per cent of 73 patients had a total blood protein of more than eight grams per cent, and that 90 per cent of these patients had a globulin of over 3 grams per cent. It has been our experience that this phenomenon occurs very frequently, but we have not found it as often as the above authors have.

The cause of these findings are not known; it may be as originally suggested by Williams and Gutman that it is similar to that observed in kala-azar, leprosy, and other chronic infections. It is well known that anti-body formation is associated with the globulin fraction of the blood serum, and that with an increase in immunity to a given infection this fraction rises[64, 4]. We have found that the hyperproteinemia occurred almost constantly in the chronic and inactive cases, while in the acute and critically ill cases this phenomenon did not occur. Further, since this finding seems to be associated with chronic infections, it is noteworthy that there was frequently an associated history of syphilis or chronic gonorrhea, or both; however, again we must note that a similar history was also obtained in cases having normal serum proteins. On the whole, we believe that this phenomenon is worthy of further and closer consideration, but at the present time we are not prepared to make a definite statement as to its value or cause.

In 1937, Jerslide[34] reported that 55 per cent of the acute cases of lymphogranuloma venereum gave a positive Takata Ara reaction, and that 92 per cent of the chronic cases gave positive tests. Recently, Jones and Rome[35] found that half of the cases of lymphogranuloma venereum manifested this phenomenon; although they could find no evidence of liver damage in their patients. Kirk[36] is of the opinion that there is a definite relationship between a positive Takata Ara reaction and hyperglobulinemia. This might account for the positive reactions in this disease. Our experience along this line has been too limited to warrant a statement concerning this phenomenon at this time. However, we are more inclined to agree with Health and King and Tumen and Bockus[32, 33, 65] that a positive reaction is not dependent on a hyperglobulinemia, but has to do with a qualitative change in the globulin fraction of the serum proteins.

Treatment

The therapy of lymphogranuloma venereum is very unsatisfactory. The primary lesion requires no treatment, and subsides in from 3 to 7 days without scar formation. For the systemic involvement symptomatic treatment is used. Complete excision of the involved glands has been the only therapy we have used for the adenitis. For the strictures of the rectum we have tried dilatation (without success), and permanent colostomies; and for the elephantiasis of the vulva, we recommend vulvectomy, if the involvement is extensive.

The literature, on the use of the heavy metals, especially antimony, and the use of various types of radiation, in this infection is tremendous; but almost without exception the result has been nil. Of late attempts at desensitization by injecting increasing amounts of a vaccine prepared from the virus have been reported favorably. Tamura[59, 60, 62] used a heated cultured antigen, starting with 0.2 to 0.3 cc., and treated his patients from 8 to 10 weeks; he also reported good results in several cases using a special anti-serum. Clyne[3] obtained similar results in five cases of inguinal adenitis treated with vaccine, but still recommends total extirpation. Wien and Perlstein[70] had good results in 200 cases of lymphogranuloma venereum, having all types of lesions, by using intradermal Frei antigen. Redell[51] reported excellent results from intravenous Frei antigen in a case of rectal stenosis due to lymphogranuloma venereum. We have had no experience with this type of therapy, and hence we are not prepared to evaluate it.

Hyperpyrexia has also been used; Rusten[54] found that recovery was hastened in two cases of lymphogranuloma venereum treated with hyperpyrexia induced by diathermy. The Frei tests were unaltered in these cases. Quite recently sulfanilamide has been advocated in the treatment of lymphogranuloma venereum. Shropshear[56] has reported almost miraculous results from the use of this drug in cases of the genito-ano-syndrome. Of course, the use of this drug is still in the experimental stage, but its possibilities must be given full consideration.

Conclusion

Lymphogranuloma venereum is a very common venereal disease and is probably on the increase. Historically the disease dates back many centuries, but it was only after the epoc-making work of Wilhelm Frei in 1925 that the disease has become firmly established as a complete entity. The disease is caused by a filterable virus which has been grown in vitro. While the pathology of lymphogranuloma venereum is not pathognomonic, the histological picture is highly suggestive in the acute stage. Numerous biologic tests have been devised, but the Frei reaction using antigen from human subjects is the only one that is unanimously accepted. The clinical picture is that of a generalized systemic disease manifested by symptoms of a low grade sepsis in the acute stage. Later the characteristic lymphadenitis occurs, while still later one finds the genito-anal-syndrome. The hematologic picture is not characteristic, but a secondary anemia is a frequent finding. Hyperproteinemia with a reversal of the albumin globulin ratio is a common finding. Positive Takata Ara reactions without evidence of liver pathology is also a usual manifestation. The exact cause of these phenomena is unknown. The treatment of lymphogranuloma venereum is very disappointing and for the most part has been surgical. However, recent attempts of desensitization, use of hyperpyrexia, and sulfanilamide therapy have given gratifying results.

Summary

The recent literature on lymphogranuloma venereum has been reviewed with a consideration of the bacteriological reactions of the virus causing it, the usual pathological findings, the use and value of various diagnostic techniques, the usual and unusual clinical findings, the various changes found in the blood, and treatment of the disease.

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The Use of Foreign Protein in Ophthalmology*

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IF WE CONSIDER vaccines as foreign protein, the use of foreign protein goes back to the time of Jenner. However, what we consider as foreign protein therapy today dates back to the time of the World War when Schmidt and Saxl of Prague used boiled milk when they were not able to obtain vaccines.

Foreign protein therapy divides itself into specific and nonspecific types. The specific type includes the various bacterial vaccines, tuberculin, lens protein and uveal pigment. The nonspecific proteins include such agents as boiled milk, typhoid vaccine, antidiphtheritic serum, Coley's vaccine, and numerous commercial products as lactogen, proteolac, omnadin and yatren. I shall not go into a lengthy discussion of the commercial products as it is generally accepted that these agents are not as effective as boiled milk, typhoid vaccine, and the other agents that produce greater shock. Gifford states that no doubt these agents are beneficial, but the results are not nearly so uniform as when one of the products causing fever is used.

The mode of action of foreign protein is still one of conflicting views. There has been much experimental work done and numerous experimenters have tried to correlate their findings clinically, but in spite of this, foreign protein therapy still remains on more or less an empirical basis. It is mobilization of immune bodies in the circulating blood. Kolmer states that a good part of the therapeutic effect may be ascribed to the fever, especially in the gonococcus diseases, leukocytosis and other leukocytic changes resulting in increased nonspecific bacterial qualities of the blood, increased phagocytic activities of the leukocytes, promoted focal reaction of hyperemia with cellular and serous exudation.

Van Szily has recently shown that one effect of foreign protein is the production of a definite inflammatory process in the ocular structures, the whole uveal tract showing active hyperemia and infiltration with lymphocytes.

Foreign protein may be given subcutaneously, intramuscularly, or intravenously. The selection of the protein to be used, the problem of dosage, and the timing of the injection in relation to other treatment are still rather confusing. However, after reviewing some of the literature, I feel safe in saying that boiled milk and mixed typhoid vaccines are by far the most popular agents being used; nevertheless, antidiphtheria serum is favored by a good many ophthalmologists.

Milk is probably the most extensively used, because it is cheap and is easily obtained. The conflicting views in regard to its efficacy are no doubt due to the variation in its bacterial content. If pasteurized milk is used, it should first be incubated for three or four hours in order to insure a high bacterial content, as it is the protein in the bacteria that produces the shock. The method of preparation varies from boiling the milk in a water bath from three to ten minutes. Gifford states that four minutes is sufficient to kill the nonspore bearing organisms. The dosage will vary with the type of infection one is dealing with as well as with the size and age of the patient. The initial dosage varies from 2 cc. in infants to 5 to 10 cc. in adults. It is generally conceded that milk is most effective in combating gonococcal, pneumococcal and staphlococcal aureus infections.

The degree of reaction in all foreign protein therapy can be measured by the temperature curve or by repeated leukocyte counts. The temperature curve is more easily recorded and is the method of choice by most men. The temperature should be taken every two hours and charted. The maximum temperature following the injection of milk usually occurs from four to eight hours after the injection. It usually returns to normal within twenty-four to forty-eight hours. The second dose should not be given until the temperature has returned to normal. The size of subsequent doses will depend upon the degree of reaction from the initial dose and the amount of clinical improvement in the disease. As a rule, the duration of temperature decreases with each succeeding dose. It is seldom that the dosage, even in adults, is increased to over 12 cc. The one disease in which milk is favored far above all other foreign protein is in gonorrheal ophthalmia.

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Next in popularity to milk as a foreign protein is mixed typhoid vaccine. Most men use this when they have a severe infection and want to obtain a greater shock than is usually obtained from using milk. Gradle states that when he has an acute condition and wants a rapid febrile reaction he usually employs typhoid vaccine. The initial dose usually varies from fifteen to thirty million organisms. From thirty minutes to two hours after the injection the patient usually has a chill, which generally lasts for thirty minutes or longer, followed by a rapid rise in temperature. Howard states that in a large series of cases he observed that the temperature rose from 101 to 104 degrees, Fahrenheit, when an initial dose of thirty million organisms was given. He also observed that the initial rise in temperature was frequently followed by a rapid fall in temperature during which the patient may have a second chill followed by a second rise in temperature which may be higher than the first rise. From this point the temperature gradually falls by lysis over a period of thirty-six hours. The second dose should not be given until the temperature has returned to normal or the leukocyte count has returned to near normal. The dosage is usually increased ten million organisms, but it may be greater than this, depending on the severity of the reaction with the initial dose. The number of doses given will depend on the character of the subjective symptoms and the rate of improvement. As a rule, if the patient shows no improvement, or one foreign protein is used and no results are obtained, it is well to switch to another protein.

The chief objections to the use of typhoid vaccine as a foreign protein have been the severe shock which so frequently follows its administration. Hoping to find a vaccine that would produce the desired antibodies without the severe shock, Brown made a study of the components of typhoid vaccine and discovered that the flagellar antigen of the typhoid bacillus would stimulate the production of the desired antibodies equally as well as the typhoid vaccine, and was notable for its freedom, as a rule, from undesirable symptoms. This vaccine has been called typhoid H. antigen. Brown has written several articles which have appeared in the literature, and advocates its use where nonspecific protein therapy is indicated.

He has used it quite extensively in uveal infections and also advocates it as a routine procedure before all intra-ocular operations. In inflammation of the uvea, its therapeutic effect is greatly increased by aspiration of the aqueous. The aqueous is aspirated in order that the titer of the antigen in the newly formed aqueous may be increased, as it has long been known that the intra-ocular vessels are quite impermeable to the passage of antibodies from the blood to the aqueous. When an intra-ocular operation is proposed, the typhoid H. antigen is given from forty-eight to seventy-two hours before the operation; when the aqueous is released at the time of operation the antibody titer is raised automatically, as the new aqueous is formed from blood which has been made rich in antibodies by the previous intravenous injection.

When used as a therapeutic agent the initial dose is from twelve to fifteen million organisms. The dosage is usually repeated in from thirty-six to forty-eight hours and is usually doubled, depending on the reaction and clinical improvement.

During the last three months I have used the antigen in several cases and all of my results have been gratifying. Speaking of eye injuries, where the injury is purely ocular Brown states that it is preferable to give the antigen rather than antitetanic serum, as they had never given the two together. In regard to this feature I would like to report that I gave the two to a patient recently with an intra-ocular foreign body and there was no untoward complications.

The indications for the use of foreign protein varies greatly with different men. It has been used for almost every anatomical element of the eye without regard for pathologic or bacteriologic diagnosis. The one disease in which it has proved most beneficial without a doubt is gonococcal ophthalmia. The use of foreign protein in this disease alone is heralded as one of the greatest advances of the present generation. Benedict states that in their experience they have had the most satisfactory results in scleritis; however, it is generally accepted that foreign protein is most effective in diseases involving the region anterior to the ciliary body. It has proved to be effective in the experience of most men in combating ulcus serpens, hypopyon keratitis, specific and idiopathic iritis and iridocyclitis, sympathetic ophthalmia, postoperative infections, and as a means of preventing infection following intraocular foreign bodies. It has also proved to be of definite value in exudative choroiditis with vitreous opacities. But, here the changes take place much more slowly than in cases of external inflammation.

The chief contraindications to foreign therapy are old age, diabetes, pregnancy, and a history of asthma and hay fever. Cobb calls attention to the fact that foreign proteins should be given early when the cells are still able to respond to stimulation and not after the cells are worn out by a long drawn-out disease. He also states that when the system is exhausted by disease, age, or malnutrition, they may do more harm than good. In this connection I would like to relate my experience in giving 10 cc. of boiled milk to an old man eighty-three years old who was suffering with a marked hypopyon keratitis. Twenty-four hours after he received his injection, he developed a severe diarrhea and lost complete control over his sphincter. I do not know whether or not this was due to the milk injection as I have not noticed any similar reports in the literature, but I cannot attribute the diarrhea in this particular case to any other cause. It is also of interest to report that in this particular case the patient did not get any clinical response to his injection.

SPECIFIC PROTEIN THERAPY

Tuberculin: The results of tuberculin in ophthalmology since its discovery by Koch, in 1891, have been conflicting. Some men have reported brilliant results. It is generally accepted by all for diagnostic purposes, but opinions still differ as to its use as a therapeutic agent. However, Gifford states that in most large clinics where many cases of ocular tuberculosis are seen, tuberculin is still considered an important part of the treatment of this condition. In his experience with the use of tuberculin in the treatment of tuberculous iritis, iridocyclitis, chorioretinitis and sclerosing keratitis, the results have been favorable. However, his results have not been favorable with phlyctenulosis.

LENS PROTEIN

The subject of lens protein as specific therapy has been investigated by several men. Verhoef, Woods, and Gifford claim that it has definite value in postoperative inflammation caused by remains of lens cortex and capsule. I have not had any experience with this agent, and so far as I have been able to find out, it is not being used very intensively. Woods, of Baltimore, is still doing considerable work on this subject and will probably have some interesting observations to report at a later date.

UVEAL PIGMENT

Elschnig, several years ago, advanced the theory that sympathetic ophthalmia is an allergic reaction, based on the hypothesis that a disease in one eye may sensitize the other through entrance into the circulation of albuminous substances. There have been numerous objections to this theory but we cannot enter here into a discussion of these theories. Woods and Knapp have treated several cases of sympathetic ophthalmia with desensitizing injections of uveal pigment in persons showing increased intradermal sensitivity.

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DISCUSSION

Dr. B. S. Guyton (Oxford): I have enjoyed reading Dr. Green's paper. I think it is really a splendid presentation and very complete. He has left almost nothing to be added in a positive way but I shall mention a few of the contraindications which have been brought out in the literature:

J. Bruce Hamilton, (The Medical Journal of Australia, 1:722, June 22, 1935) mentions the following contraindications: (1) Weak and debilitated patients, especially marasmic children; (2) tuberculous patients; (3) patients with kidney disease; (4) women in the last months of pregnancy.

James M. Steele in his "Untoward Reactions to Foreign Protein Injections: A Summary of Methods for Prevention and Treatment," (Clinical Medicine and Surgery, 45:417, September, 1938) mentions the following:

1. Marked arteriosclerosis, peripheral or renal.
2. Uncompensated cardiac, renal, or vasomotor disease.
3. Chronic infections of long duration, with dissemination to several sites.
4. States of exhaustion following prolonged illness.
5. Pulmonary tuberculosis, active or quiescent.
6. Conditions in which hemorrhage is likely to occur, such as hemophilia, epistaxis, and the ulcerating stage (third week) of typhoid fever.
7. The period within fourteen days following an operation, for hemorrhage has occurred occasionally when vaccine was given ten days following tonsillectomy or minor pelvic operations.
8. Marked arterial hypertension.
9. Chronic alcoholism (for fear of provoking delirium tremens.)
10. States of grave nervous instability, quiescent or active, such as hyperthyroidism, epilepsy, and other psychopathic conditions.
11. Definite, marked protein hypersensitivity, suggested by a history of serum sickness, urticaria, or angioneurotic edema.
12. Pregnancy, for fear of inducing hemorrhage or premature uterine contractions.
13. Rheumatic fever, with acute or decompensated carditis.
14. Diabetic acidosis.

It is noticed in much of the literature that anaphylaxis is named as something to be watched for and one author even suggests that one should always keep adrenalin ready to be injected with the first symptoms of discomfort. Some cases of anaphylaxis have been reported following the injection of milk. Two deaths have been reported from "phlegmon in gluteus" following milk injections. However, in the Southern Medical Journal of May, 1933, Dr. E. H. Green reports that in the Emery University Out-Patient Clinic 18,270 milk injections had been given without a single case of anaphylaxis.

Recently I injected a 25,000,000 dose of the "typhoid H. antigen" intravenously and got the expected primary reaction in about forty or fifty minutes, with high fever following this. About thirty-six hours later the patient had another rigor and high fever with a big drop, and still a third rigor at forty hours. After the rise of fever following this last rigor his temperature came back to normal rather quickly and he had no further trouble until the fifth day when he again ran rather high temperature for nearly twenty-four hours. We could not find any cause for this last rise of temperature and are still wondering if it may have had any connection with the typhoid injections intravenously.

During the observation of this case I was afraid of septicemia and it was quite a relief to me when he cleared up. Since that time I have seen in the literature statements that patients frequently have a second rigor following the typhoid injection into the blood stream. No instance was mentioned of the third rigor, as my case had.

I am a strong believer in the foreign protein therapy as Dr. Green has outlined it to you and I use it quite a great deal. Again I wish to say that Dr. Green's paper is in my opinion the best that I have heard on this subject.

Dr. Grady Clay (Atlanta, Ga): I enjoyed the paper very much. There is nothing I can add to his discussion except to emphasize the fact that I am a great advocate of foreign therapy in all types of eye conditions. In all types of inflammatory conditions I think foreign protein has a distinct value and I have been in the habit of using some of the moderate types, especially in severe inflammatory conditions of the eye, where I think foreign protein has a distinct value. Boiled milk is accessible at all times and is certainly the cheapest foreign protein we can use and is about as effective as any. Because of economic conditions we have been forced to use boiled milk now for the last two years and certainly I am convinced that it is just about as effective as intravenous typhoid. I prefer to use typhoid intravenously in other conditions. All patients with severe inflammatory conditions should be in bed, possibly in the hospital.

Recently another foreign protein has been used which gives wonderful reaction and that is Colle's serum. This can be given 2 cc.s intramuscularly at the office and the patient goes home and the reaction comes in about two hours. We have used that quite a number of times and like its effect and like it because it can be used in the office and the patient can be told that he will not have a reaction before two hours.

Dr. D. C. Montgomery, (Greenville): I will report a case in which I gave a particular individual 15,000 units typhoid H. antigen. He had a temperature of 105°F. within two hours. Twenty-four hours after that he had a third chill. A few days later he had the same reaction again. I neglected to say that another doctor saw him later on and he had the same reaction.

Cancer of Colon and Rectum*

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Carcinoma of the colon and rectum is most often a progressive but slow growing tumor that metastasizes comparatively late in most cases. It is most common between the ages of 40 and 70 but no age is exempt from it. In my series of 42 cases 85.7 per cent were in this age group. There were five cases under 40, the youngest being a boy 16 years of age who had an inoperable carcinoma of the rectum when first seen, and died five months later. The oldest case in my series was a man 80 years of age. Lanart collected 61 cases of carcinoma of the large bowel between the ages of 20 and 30 years. Phifer collected 23 cases of carcinoma of the colon and rectum in children under 16 years of age. Clair reported a case of carcinoma of the colon in a child 3 years of age.

The rectum is fifth in list of primary seats of cancer and about 50 per cent of cancers of the large bowel occur in the rectum. Cancer of the small intestine is rare. Brill's statistics of 3,563 cases of intestinal cancer give 97.5 per cent as occurring in the rectum or colon. Of 343 cases of intestinal cancer reported by the Pathological Institute of Vienna 164 were in the colon and 162 in the rectum. Schleips reported 542 cases with 259 in the colon and 257 in the rectum. From 1664 cases reported as follows: Judd 625, Lockhart 560, Erdman 119, Wilkie 101, Rossier 100, Graham 86 and Lahey 83. There were 931 cases of the rectum and sigmoid, and 733 cases in which the lesion was in the colon. Raiford reported 511 cases from the Johns Hopkins Hospital with 192 cases in which the lesion was in the colon and 319 in the rectum. In my series 24 cases have been in the rectum or sigmoid and 18 cases in the colon.

Cancer of the rectum and colon is more common in the male. Raiford reported that males outnumbered females a little over 2 to 1. In my series 25 were males and 17 females.

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*Read before the Delta Medical Society, Greenville, Miss., April 12, 1939.

Anatomical relations may influence the development of cancers at the ileocecal valve, the junction of the appendix, the rectal folds and at the anus where there are more or less definite interruptions in the structure of the intestinal wall. The considerable number of cases occurring in children indicates that developmental anomalies at these points serve as sources of carcinoma. Chemical and physical trauma must be regarded as aggravating factors in colon cancers. The sphincteric action, mucosal changes and narrow caliber of the rectosigmoid, plus physical trauma from hard scybolous stools may account for a large number of cancers in this area. Another etiological factor may be pressure and irritation to the anterior wall of the rectum from enlarged prostate glands.

Although carcinoma often develops in subjects with hemorrhoids, fistula and cicatrices there is no satisfactory evidence that these conditions are predisposing factors of cancer. A tissue predisposition appears definitely only in cases arising on multiple polyposis. There is a familial tendency towards polyposis. Rankin reports two families with five cases of multiple polyposis in each family. He states that 40 per cent of rectal polyposis will develop into cancer. I have seen one family of three generations with polyposis of the rectum that developed into malignancy. The first case was the grandfather, who gave a history of having rectal polyps, but when he was first seen in our clinic, he had a malignant cancer of the rectum. We later treated his son and daughter for rectal polyposis, which developed into cancer. Two granddaughters, offspring from the daughter, also developed rectal polyposis. The end result of one of these cases is not known, but the other had some polyps removed which microscopically were benign. Four years later another polyp had developed and was removed which was also benign. Six years later she was admitted to the hospital with an advanced rectal cancer with metastasis to the mesenteric lymph glands.

The most common form of cancer of the colon is the crater-like ulcer which has a tendency to encircle the lumen, and in advanced cases, there is an annular collar surrounding and constricting the lumen. Another common type is the cauliflower growth that rarely encircles the lumen, but produces partial or complete obstruction by encroachment upon the lumen. Less common is the so-called scirrhous carcinoma. These rarely ulcerate but infiltrate the bowel wall stimulating a fibrous tissue reaction and producing a constricting ring. Many variations of these forms can occur and many shapes and combinations of forms are seen.

Microscopically about 95 per cent of colon cancers are adenocarcinomas made up of atypical proliferations of epithelial cells extending beyond the normal limits of the mucosa and invading the outer limits of the intestinal wall, or the surrounding tissues. These cells retain in general the glandular form, but are influenced somewhat by the degree of malignancy. About one third of the cases show the presence of mucoid degeneration. The scirrhous cancer is an adenocarinoma in which the connective tissue has hypertrophied to the extent that the epithelial hyperplasia is retarded. A rare form of intestinal cancer is the primary mucoid carcinoma. These cancers arise from the mucosa epithelium but do not form typical glands. They secrete lots of mucus causing a distension of the cells and a peripheral displacement of the nuclei forming the signet ring cell which is typical of the Krukenberg tumor. These tumors are very malignant and metastasize wide and early and have an extremely high mortality. They should not be confused with the ordinary adenocarcinoma with mucoid degeneration.

In nearly all cases, secondary infection plays a prominent part in the progress of the lesion causing local or spreading suppuration, peritonitis, fistulous tracts and communications between adjoining coils of bowel, stomach or bladder. Above the tumor the intestine is usually dilated, hypertrophied and chronically inflamed, or thinned and even subject to perforation.

The lymphatics of the right colon are relatively few in number and are closely situated to the bowel wall which accounts for the late metastasis and relatively easy removal of glandular metastasis in right sided lesions. The lymphatics follow the blood vessels of the mesenteric system. In the rectum the lymph system is more complex. The lymphatics of the upper rectum extend along the mesorectum to the bifurcation of the great vessels and thence along the aorta to the liver. The lower lymphatic drainage extends downward and traverses the skin of the perineum and flows into the inguinal nodes in Scar-pa's triangle. Branches from the middle portion of the rectum follow the hemorrhoidal vessels to the anorectal nodes.

Enlarged lymph nodes in the region of a malignant growth do not always mean metastasis, but may be from infection. It is estimated that 46 per cent of the cases of cancer of the colon will have enlarged lymph glands due to infection. It is a good idea to have the pathologist present at the time of the operation to examine enlarged glands to determine whether the enlargement is due to metastasis or infection. All cases in which metastasis to the lymph glands has occured should not be considered inoperable. The removal of the original growth occasionally causes a carcinolytic effect on any metastasis that may exist.

The mortality of untreated cancer of the colon and rectum is 100 per cent. For this reason, the surgeon is justified in taking greater chances and operating on poorer surgical risks than in any other type of surgery, even though this attitude may cause an elevation of surgical deaths. The usual causes of death in untreated cancers of the colon and rectum are obstruction, perforation and peritonitis.

The clinical features of cancer of the colon and rectum depend upon the gross form of the tumor and the presence or absence of such features as ulceration, hemorrhage, perforation, obstruction, etc. In early cases of cancer of the colon, there are no pathognomonic symptoms characteristic of the disease. Even in late cancer the condition may stimulate some disease that is more prevalent and be misdiagnosed for such conditions as ulcerative colitis, amoebic dysentery, hemorrhoids, etc. Some of the early symptoms are vague gastrointestinal disorders. Constipation is common but of questionable value. Alternating periods of diarrhea and constipation is very suggestive, especially if in a patient of the cancer age. Pain is seldom a striking feature in early cancer, but is generally present in the later stages. Malaise and cachexia appear insidiously. Loss of weight begins slowly and progresses steadily. Patients, with cancer which causes a partial obstruction, often complain of gas and distension which is relieved by a bowel movement. Most patients have an anemia which may be mild or severe. Carcinomas of the cecum are especially prone to produce a severe anemia which may stimulate a primary anemia. The anemia from these cases is usually not due to hemorrhage, but to a bacterial toxin formed in the cecum.

The clinical history in some of my series was not complete as it could have been, but about 75 per cent of the cancers of the cecum and transverse colon caused constipation and gas which was relieved by a bowel movement. About 50 per cent complained of diarrhea at times. About 50 per cent of the cases with the lesion in the descending colon complained of symptoms due to partial obstruction, 30 per cent had a diarrhea and most of them had more or less blood in the stools at some time. The rectal cancer cases complained of constipation in 60 per cent and diarrhea in 25 per cent.

The diagnosis of cancer of the rectum and colon is made by a careful consideration of the clinical history of the patient, physical examination for palpable masses in the abdomen, sigmoidoscopic examination, barium enema and x-ray examination and by biopsy of masses found on sigmoidoscopic examination.

The rank and file of the medical profession have not as yet developed a cancer consciousness especially in regards to the colon. If this were true, we would have a less number treated for other conditions as ulcerative colitis, amoebic dysentery, appendiceal abscess, etc., long before the correct diagnosis is made.

Stebbins and Burke report that of 295 cases of cancer of the colon and rectum referred to them, 163 were cancers of the rectum with a correct diagnosis in 83, incorrect diagnosis in 25 and the diagnosis unknown in 55. Of these 163 cases 134 cases had a palpable tumor easily felt by digital examination of the rectum. Of 132 cases of the cancer of the colon 42 were correctly diagnosed, 28 incorrectly diagnosed and 62 with the diagnosis unknown. A palpable tumor was present in 46 of these cases. They remark that tardiness is the greatest obstacle in combating cancer of the colon, and rectum. This may be in the patient, the physician or the cancer itself. The patient usually tries self treatment for a period, the physician may neglect making a careful examination and be tardy in diagnosis or the early cancer may fail to produce clinical symptoms.

Bargen and Leddy reviewed 1727 cases of rectal cancer from the Mayo Clinic. Only

55 per cent were operable and resection was possible in only 35 per cent. They questioned 200 consecutive cases about the first symptoms, the progress of the disease, whether they attempted self treatment, when a physician was consulted, and what kind of an examination he made and what treatment he prescribed. Their findings are as follows: the symptoms in order of occurence were bleeding, pain, constipation and diarrhea. Most patients had a combination of these symptoms. Self medication was the rule as regulation of diet, laxatives and "pile cures." When the patient consulted a physician many treated the patient for constipation or diarrhea, or did operations for hemorrhoids or fissures without making the proper diagnosis, with the result that the cancer developed into an advanced stage before the correct diagnosis was made. Their conclusions were: that cancers go into the advanced stages due to the frequent wasting of valuable time on the part of the patients by self diagnosis and self treatment and by regarding the symptoms as unimportant; delay by the physician in making a digital examination of the rectum, and lack of knowledge on the part of the patient concerning the safety and satisfactory end results of rectal surgery.

We have seen five cases of carcinoma of the rectum who were treated for amoebiasis for a prolonged period before an advanced carcinoma was diagnosed. We have also had two cases of amoebic granuloma of the rectum from which a biopsy proved to be nonmalignant. This case cleared up with anti-amoebiasis treatment. The other case was an amoebic granuloma of the caecum. The patient had an appendectomy two years ago. He complained of pain over the caecum with lots of gas and distension. A palpable mass could be felt over the caecum and the diagnosis of carcinoma was made. The caecum was resected and biopsy proved the mass to be an amoebic granuloma and not cancer.

Amoeba possesses two modes of action on its host; a mechanical invasion and a toxin causing edema fibrin formation, and a degeneration of cells. In some chronic infections the slow inflammatory process results in the formation of a large amount of fibrous tissue in the submucosa, the muscularis and subserosa and the interior of the bowel at the site of fibrosis is ulcerated resulting in the typical amoebic granuloma which may so mimic malignant disease as to be mistaken for carcinoma.

Yoeman reported two cases of amoebic granuloma in which ordinary stool examinations were negative for amoeba, but smears made direct from the ulcers revealed the true nature of the disease. Gunn and Howard reported three cases of amoebic granuloma that stimulated cancer. Rogers reported two cases supposed cancer that cleared up by emetin treatment. Reed and Anderson reported four cases of cancer of the colon that developed in cases of chronic amoebiasis and discussed amoebic ulcerations as predisposing factors to the development of cancer. They also stress the importance of x-ray study for the possibility of malignancy in amoebic cases that do not respond to treatment.

In conclusion, I think the general public should be educated as to the importance of consulting a physician early for any vague gastro-intestinal disturbances and for physicians to become more cancer conscious. A physician seeing a patient with any gastro-intestinal disturbance and especially if there is an anemia should not consider his examination complete regardless of what positive diagnosis has been made until a digital rectal examination and an x-ray study of the colon have been made so as to rule out any possibility of cancer. Cancer of the colon and rectum is not unlike cancer of any other location due to the fact that if diagnosed early before metastasis has occurred, and before secondary inflammatory reactions are severe, a cure is possible in a high percentage of cases with comparatively little suffering and economic loss whereas if the condition is allowed to advance to a late stage, there is a high mortality and much suffering by the patient.

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Common Sense in Obstetrics*

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THERE IS SUCH a thing as good judgment and common sense left in a country beset by reforms and a way of living characterized by hurry and bustle and more or less hysteria. Even medicine seems to partake of this frantic search for cure-alls and short cuts, some of which are accepted, others soon discarded or given a small place. It therefore behooves those of us who do obstetrics to remain level-headed, clear-thinking and on the job.

At a recent meeting in Memphis one of our leading surgeons stated that the mortality of appendicitis is our national disgrace. Within the last few years, because of publicity from the surgeon general's office, the public seems disappointed in the medical profession because of the high rate of syphilis. For a time maternal mortality was so much in the limelight, I was almost ashamed to state that I was interested in the gentle art of childbearing, for according to our brilliant surgeon friends, "they will all have their babies if let alone." The incidence of Caesarian section is monstrously high when a surgeon dabbles in obstetrics, as many a one does. We can hardly hope for perfection in obstetrics when we consider the number of women below par with heart and kidney disease, the tubercular cripples that are saved through medical science later to have babies, plus the trend toward marriage late in life. When it is not uncommon to deliver a thirty-two-year-old woman as a primipara, I think we do fairly well.

It is amusing to observe these modern papas: a little bald, gray besprinkled at the temples, frequently bespectacled, shoulders stooped, pacing the hospital corridor awaiting the birth of their first (and most often only) child, and speaking of themselves as "we young folks."

The various agencies, detail men and lay press, all stress the manifold things that should be given the pregnant woman, and if she should take all the iron and copper for anemia. calcium and phosphorus, and a quart of milk a day, she would be put in the pathologic list from the first. She is not sick, usually, and most especially not until about the seventh month. It is my firm belief that a young woman should arrive at the end of her pregnancy, fit, lean and well-tanned; very much as one getting ready for some sort of athletic contest. All will not be able to do this, but I am sure that 90% will. The toxemias, tuberculars, heart cases and threatened abortions will, of course, require rest. Here, I think, is where one can display common sense and good judgment. The average pregnant woman, if started early, can and will develop an abdominal sling that is entirely ample to carry comfortably the uterus to full term and act as an admirable organ of expulsion, when needed, if she has walked twice daily, regardless of the weather. She will not put on the beef around her hips, her weight gain is slowed up and she looks and feels better when she is back on her feet after delivery. She is usually able to walk three miles daily, all through her pregnancy. Of course, unless she wears low shoes of the "masculine" type, preferably with rubber-tipped heels, she will not make this mileage for you and will stumble and fall easily in higher heels.

Sun baths can be taken in this latitude nine months of the year, if one prepares some sort of a cubicle, which acts as a wind breaker as well as a hiding place. It has been our experience that women who are well-tanned bleed very little after delivery, unless the cervix is torn. Sunshine, one must remember, activates calcium, which is present in a great many foods. Most average-sized women in the South who drink a full quart of milk a day during their pregnancy get entirely too heavy. Of course, if the lady is underweight, milk is a fine food. Perhaps, if her weight gain is satisfactory, let her alone with her milk drinking; that is, let her take what she wants. If, however, her weight curve climbs too fast.

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cut down the milk with other foods (bread, sweets, butter) that are high in caloric value. Give her a calorie chart and make her count calories. The average pregnant woman gets along very well on from 1,200 to 1,300 calories.

So often one sees a pregnancy in the last trimester who has a sharp gain in weight (four or six pounds in two weeks instead of the usual two pounds) and no other signs of trouble but a pitting edema of the legs. We are taught that here are two signs of toxemia, weight gain and edema, but no elevation in blood pressure and no albumen. This, according to Dr. Whiteacre, is a water metabolic imbalance, and if the total fluid intake is cut to four or five glasses per day, including fruit juices and milk, and salt is taken out of the diet, the edema will be absorbed and the weight will recede. She is saved the discomfort of Epsom salts and bed rest, perhaps for the remaining two months. Most obstetrical authorities now state that toxemias begin in the following order: 1. sharp weight gain; 2. edema; 3. rise in blood pressure 10 to 20 points; 4. albumen in urine.

The healthy pregnant woman we observe runs a systolic blood pressure of 90 to 110 and not 120 to 130. All who have done much of this work have seen an occasional eclampsia convulsion with a systolic pressure of 130 to 140.

Pyelitis of pregnancy usually becomes severe at from five to seven months' gestation but these same women, if carefully questioned, have had nocturia and urgency since two months. If a catheterized urine is run early on those who have bladder complaints, more often than not, your large doses of hexamethenamine or whatever urinary antiseptic you wish to give, will clear her up before the uterus more completely obstructs the ureters. Pyelitis of pregnancy is more often right-sided, and we must be guarded in making a diagnosis of appendicitis in pregnancy, as appendicitis in pregancy is comparatively rare, while pyelitis is common. This does not mean that we should disregard the very occasional acute appendix in pregnancy, for if it is not operated early before rupture, the results are tragic. The large pregnant uterus spreads the infection clear up to the diaphragm and the mortality is very high.

Speaking of pyelitis versus appendicitis, a few years ago it was rather a common sight in Memphis to see a young woman in fairly early pregnancy, with a vivid red, fresh scar at McBurney's point, who had come to an obstetrician for care, stating that she was just recovering from an appendix operation; she also still had her original pain. Further examination showed her to have a right-sided pyelitis. Did she need her appendix out?

How many of you have observed the phenomenon of the primipara at or near the end of pregnancy, with the fetal head deeply engaged already halfway through the pelvic bony canal? We always expect it, and unless this is the case in which one should be highly suspicious of first, a contracted inlet, second, an excessively large or extended head, or third, a position other than cephalic. Palpation from above, seeing how snug and deeply-fitting a head one has, is valuable, and one can, with a finger in the rectum or vagina thrust the head gently but firmly from above downward (Hillis maneuver) before labor, near term, and get a good idea of the capacity of the pelvic inlet compared to that head.

Analgesia in labor is a popular and probably not harmful procedure if carefully carried out. I am sure I should demand some relief if the tables were turned and I became the patient. Analgesia tends to make the patient completely relax and rest between contractions and thereby probably helps conserve strength, keep down blood pressure and save energy, by slowing down cell metabolism. It also probably prevents damage to the cervix by softening it and lessening the severe pressure, allowing dilatation to proceed more orderly.

On the other hand morphia or its kinsfolk, if given within two hours of the delivery certainly will increase the difficulty of resuscitation of the newborn. The baby just doesn't give a darn whether he breathes or not. Also, some few women deliver so rapidly that inhalation anesthetic is all one has time to give.

What to give, when to give it, and how much is a big question. The best answer, perhaps, is to become thoroughly familiar with some one method and stick to it. To show the truth of this statement, I recently saw a case of another doctor whose patient was very well narcotized with paraldehyde; another in which seconal was successfully used. We were very happy for a time, with Gwathmey's ether oil analgesia régime, but it was troublesome to give and especially was difficult to get the patient to retain.

The two principal methods in common use

in Memphis are morphine and scopolamine, or nembutal. I like the first better, because I have used it a long time and it has served well. Nembutal alone requires a bed built with sideboards and constant attendance, while the morphine and scopolamine method induces fairly profound sleep. The following is a popular modification of the first method: As soon as labor is definitely established, give six grains sodium amytal by mouth or rectum; to enhance and prolong the effect of the other drugs. Soon thereafter (thirty minutes to one hour) give morphia gr. 1/6, scopolamine gr. 1/130. This is a moderately large dose of scopolamine, but does not seem to hurt them. If this is not effective in one hour, repeat the scopolamine or give 1/200 scopolamine. As time goes on the scopolamine may be repeated, using smaller and smaller doses (1/200 to 1/300, as the drug is cumulative). The patient that is well under this will be red-faced and rouse a little with each pain, immediately to fall asleep as soon as it is over.

Prophylactic Low Forceps

A statistical study made over a period of three years at the Methodist Hospital showed that prophylactic low forceps give a better fetal mortality than normal deliveries in primiparas. Occasionally one thinks his operation will be a low forceps when a bit of scalp is bulging through the vulva, only to find when he applies his forceps that he is dealing with an enormously elongated head, with the parietal bosses still at the spine. This is a mid-pelvic head and is much harder to deliver than a head not so elongated and where the parietals can be felt from outside.

Did you ever use novocain in the perineum for episiotomy? It is very efficacious, even as an infiltration anesthetic, and is particularly fine as nerve block anesthesia. We have used both methods and have satisfactorily done low forceps, episiotomy and repair without any inhalation anesthetic. A four-inch needle is used for the block and after a wheal is injected in the skin one-half inch outside and at the lower level of the vulva, put two fingers inside the vagina and insert the needle to just inside the ischial spine, at about its middle point. At this stage draw out on the syringe to see that you have not entered the internal pudic artery or vein. If no blood appears, fine anesthesia of the entire pelvic floor may be obtained by injecting 5 to 10 cc. of 1 per cent novocain. This envelopes and deadens the internal pudic nerve, which, I think, would be very valuable in the country where the patient had a severe cold or where there was some contraindication for gas or ether, such as cardiac cyanosis, etc.

If I have said anything that is of any importance I believe the most valuable is fitness for labor. Again, let us stress the point that the woman arriving at term, lean, strong and well-tanned, will stand the ordeal whatever it may be, far better than her sister in labor who is puffy, overweight, waxy white and probably anemic.

The Cautery: A Surgical Necessity*

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Throughout the centuries heat has been used as a therapeutic agent and in fact is probably the oldest method known to man for the treatment of disease. Moodie states that cauterization of the scalp was used in neolithic times in France and later in Asia, the Canary Islands, Europe and Peru. Hippocrates, Severines, Larrey and Rust used it extensively in their practice. Methods of application varied in different centuries and in different countries. Dried leaves of wormwood called moxa were used by the Chinese. The Mongolians preferred the use of cotton. A great many used the hot iron which has been very little improved upon. It is possible that hemp, flax, oakum and the sponge were used in earlier times. Hippocrates used the two latter. Marco Polo, about the year 1275, reported that the Chinese physicians were adept in treating ulcerations and sloughs of the vagina. Lamballe in 1843 was probably the first man in the nineteenth century to advocate the treatment of ulceration of the cervix by use of a soldering iron. This procedure had been recommended by Percy in 1811 but was not extensively used by him. Jobart mentioned the lack of pain during cauterization of the cervix and attributed it to the absence of nerves in that organ. Years later the Germans, particularly Brnades, brought this treatment into popular use. In 1906, Hunner suggested treating cervical diseases by deep radial cauterization. In 1911 Dickenson began using the fine cautery tip for the same purpose and since 1920 this form has become generally accepted. In September, 1938 Miller and Todd reported 899 conizations at the University of Michigan Hospital during the preceding four years. There was no serious complication in this series of cases and there were no strictures in any case. James Masson and Eloise Parsons in September, 1928 reported 1031 cases of cystic cervicitis treated by cauterization. They reported excellent results in every case. Caulk and others report the use of the cautery in prostatic hypertrophy and the results that they got were remarkable. Rogers and Dwitt of Boston report 140 patients treated with the cautery suffering from pilonidal sinus. The results were uniformly good. Brown of Cincinnati reports three cases in which he used Goni's cautery for detached retina with excellent results. In the ophthalmic field there can be no question that the cautery is the treatment of choice in corneal ulcers. As early as 1903 Donavan advised this form of treatment in corneal ulcer. Morse reports a large number of cases treated in this manner. He states that the early use of the electric cautery has given the best results. Healing takes place in a few days with almost no scarring and in the more advanced ulcers the infection relieves the pain, saves the patient from further loss of vision and shortens the time of disability. Many surgeons are using the cautery in malignant conditions in preference to the knife. This is especially true in cancer of the breast and some of the viscera. Biopsies should be done with the cautery. In the event of malignancy you do not get the usual flare-up that you would where the knife is used. Cancer within the nose should first be treated with the electric wire in preference to any other method. In a great many hospitals the appendix is never removed except with the cautery and it is claimed that adhesions are far less frequent in cases where the cautery is used than where the knife is used. There can be no question that heat will cure cancer in a great many early stages, whereas the knife would merely aggravate the condition. Hemorrhoids next to cervical conditions probably rank highest among diseases that are most successfully treated with the cautery. I have been in the operating rooms at the Mayo Clinic and watched the surgeons operate on dozens of patients suffering with hemorrhoids and every case was done with the cautery. I firmly believe that the early thorough cauterization of the pre-cancerous cervix would reduce to a minimum, if not completely prevent, cancer of this organ. Twenty years ago practically every woman who went to a surgeon suffering from a lacerated cervix was subjected to a repair operation. Most of these cases were in a worse fix afterwards than before. Today I doubt very seriously if there occurs a single cervical repair in the more up-to-date institutions. The cautery has surplanted the knife and the results are unbelievable. The great advantages in treating cervical conditions with the cautery are; first, the treatment is painless, or practically so; the treatment is bloodless, or practically so. There is no shock, there is no stay in the hospital, there is no danger of cancer following a pre-cancerous condition. The results are almost miraculous. After the burn is well the cervix appears more like that of a virgin than that of a diseased woman.

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May I stress upon you that no office is complete without a modern cautery set and no surgeon is efficient unless he can use that cautery.

DISCUSSION

Dr. J. P. Culpepper, Jr., (Hattiesburg): It is with a great deal of pleasure that I have read and listened to Dr. Johnston's paper, calling to our attention an instrument in our armamentarium that is so old that it is frequently overlooked.

The hot iron was one of the most dependable instruments in the hands of the ancient man of medicine for it was his most effective method of controlling hemorrhage. The crude instrument used as a searing iron in ancient times was the forerunner of our precise and effective electrosurgical equipment of today, of which there are many and varied types available.

There is practically no field of modern surgery today in which some type of electrosurgery is not applicable. In fact, the uses are so many and varied that it is impossible, in this short time, even to mention all of them. I would like to call your attention especially to one phase of the essayist's paper, and that was the use of the cautery in the cervix.

It is generally conceded that the cervix is the most frequent point of infection in the female generative tract, and it is here that the cautery, rightly used, gives us our most brilliant results.

The old spoke wheel linear cauterization of the enlarged, cystic and eroded cervix is one of the oldest and most effective methods of dealing with this type of pathology. In 1928 Hyams advocated the conization of the cervix by the electrosurgical loop. Several modifications of the original technique have been advocated by various authorities, but the underlying principles are the same—namely, the endeavor to eradicate the infected gland-bearing areas of the cervix.

I will have to differ with the essayist just at this point with reference to one statement made. I think that the surgical repair of the deeply lacerated cervix should always be done in preference to cauterization. The end results, in my hands, are much superior and the tendency towards stenosis is greatly lessened.

Finally I would like to mention a warning concerning either extensive cauterization or conization and that is stenosis. It has been my unfortunate experience to see a number of these women in the past few years, both from my own patients and from surgeons elsewhere, who have been forced to undergo a second hospitalization and anesthetic in order to have an adequate dilatation. This, to my mind, is the thing to remember always when we are cauterizing the cervix.

For the simple types of erosion following childbirth the cautery used in the office during the postpartal check-up gives the most brilliant results for this condition that I have ever seen. It is my firm belief that if we would take care of these very superficial lesions, at the proper time, that the incidence of cancer of the cervix found later in life would be materially reduced.

Dr. J. W. Lipscomb, Jr.: Dr. Johnston is to be commended for bringing this topic to our attention at this time. I thoroughly agree with him that a cautery in the various forms is almost an indispensable agent in the hands of the surgeon today. He has almost got to have it. I do think that probably it would be wise to give a few words of caution, however. Now I personally do not use the cautery in many of the forms he himself uses it, but I have used it and do use it regularly, particularly in infections of the cervix. I think the modern cauterization of the cervix cannot be bad. There is a word of caution there that the cervix should be treated first, because if you should cauterize one that has not quieted down you will get a horrible flare-up if you cauterize it too soon either with an actual cautery or with a radio-knife. Another thing, although our results are splendid by cauterization, I have seen several case of cyanosis that followed cauterization. In my cases I have not seen any of it, but they probably went to the other fellow. The ones I have seen were done by the other fellow, so our returns whether we get any cyanosis following cauterization can be considered as 100%.

Then in the use of the cautery in malignancy, I want to caution you not to feel too secure by just cauterizing a suspicious lesion. I had a peculiar experience a while back in which one of the outstanding men of the South saw this small occult-like lesion on the anterior pillar of the tonsil. He said, "Well, doctor (it happened to be on a doctor), if it is malignant it won't make any difference, we will just cauterize it and that will take care of it," and so this very good man (and he is a good man) cauterized this lesion and apparently destroyed it, but about three or four months later the first gland here in the neck started swelling. It was hard, and malignancy was present there. He failed to take his biopsy. I want to enforce my belief that on every lesion that looks at all suspicious a biopsy should be taken. That particular case is still living—that was 8 years ago—and I just mention it because I am very familiar with the case.

I enjoyed Dr. Johnston's paper very much. I haven't any more to add.

Dr. Johnston (closing): I have nothing further to say, but I do think that in every case where there is any suspicion at all of malignancy a biopsy should always be first taken. I do not want to preclude the use of biopsy by the cautery in anything that looks at all suspicious.

Chronic Subinvolution of the Uterus*

FRANK R. LOCK, B.A., M.D., AND J. W. DOUGLAS, B.A., M.D.
NEW ORLEANS, LOUISIANA

CHRONIC subinvolution of the uterus is one of the commonest causes for pelvic discomfort, and each of us has had to deal with this condition in our contact with women patients.

Subinvolution is due to some interference with the retrograde changes that normally follow labor or abortion. The retrograde changes that normally take place consist of atrophy of the muscular and connective tissue. These retrograde changes may be interferred with by anything that prevents proper contraction and retraction of the uterus or that causes chronic congestion of the uterine vessels.

A uterus that becomes infected after labor does not return to its normal size unless the infection is overcome. Retained membranes or placental fragments also interfere with the process of involution even in the absence of infection. General diseases may so interfere with the process of involution even in the absence of infection. General diseases may so interfere with the entire tone of the body that subinvolution develops. Each of us has encountered the varying degrees of subinvolution which invariably accompany malpositions of the uterus following labor and abortion, through the associated congestion, and the failure of the blood stream to eliminate waste products and to provide elements of nutrition to the uterine wall.

Grossly the pathology present is simply an enlargement of the uterus due to thickening of the uterine wall, and varies with the degree of subinvolution which is present. The wall is very firm and on cut sections the blood vessel walls stand out above the walls of the cut muscle. Microscopic section reveals a general increase in the fibrous tissue in some areas, while in others it may be perfectly normal. The most striking changes are in the marked hyalin degeneration and increase in fibrous tissue in the blood vessel walls. The change may be arrested at any stage, and the vessel walls are immensely thickened and may be irregular in shape.

There is never a complete restitution to the virginal uterus, and with each pregnancy there is an increase in fibrous tissue through the uterine wall. Subinvolution, therefore, is a relative term for each parous uterus presents some evidence of these changes.

The symptoms of subinvolution are frequently a sense of weight, or a dragging sensation in the pelvis, vague lower abdominal pains, backache, and bearing down sensation. Some menstrual disturbance is often present, usually an increase in flow. Frequently the most prominent symptoms are due to complications which are etiological factors in the subinvolution such as chronic metritis and malpositions of the uterus.

Pelvic examination reveals a uterus that is definitely larger than normal, and one which is boggy during the early post-natal period, but with increasing deposits of fibrous tissue becomes denser as time passes. The uterus lies low in the pelvis and retrocession, prolapse and retroversion of some degree are commonly found. Usually the patient gives a history of persistance of the lochia rubra past the normal 8-12 days, and with subsequent menstruation an increase in duration and amount of the menstrual flow. The dragging abdominal pain and associated symptoms are usually dated back to the last or to a previous delivery, and usually one in which inadequate postnatal care was given.

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*Read at the Graduate Medical Assembly, the Tulane University of Louisiana, Oct. 25, 1939, Department of Gynecology.

We may base our consideration of the treatment of this condition on three primary periods; first, the immediate postpartal period where prophylaxis is of primary importance; second, the early post-partal period, from six weeks to four months, when vigorous conservative treatment is apt to result in complete resolution of the condition; and, third, to the late post-partal period, after four months, when our conservative measures are less likely to be effective.

During the immediate post-partal period a few simple measures are usually effective in the prevention of subinvolution. The course of the involution of the uterus should be followed carefully during the lying-in period, and abdominal palpation of the uterus above the symphysis should not be possible by the tenth post-partal day. It is our practice to give one cc. of obstetrical pituitrin and 1/320 of a grain of Ergotrate intramuscularly immediately following delivery, and to follow this with Ergotrate Gr. 1/320 orally at four to six-hour intervals for four doses. By this medication the uterine wall is started well on the road to involution, and any puddling of the lochia in the uterus is avoided. If at any time during the early post-partal period, delay in the decrease in uterine size is noted, two and one-half cc. doses of pituitrin are given at an interval of forty-five minutes to one hour, and an addiitonal four to six doses of Ergotrate are given orally. The patient is placed on her abdomen for one to two hours daily, so that the heavy post-partal uterus is aided in its return to the normal anterior position in the pelvis. As soon as the lochia rubra has stopped the patient is instructed to take hot douches twice daily, and if the bleeding has not stopped by the end of the third week following delivery, the patient should begin hot douches in the presence of bleeding as an added stimulus to contraction and involution of the uterus. It should be noted that there will be an increase in flow with the first two or three douches taken, but that the bleeding will quickly check after additional douches have been taken. The douches are much more effective when taken lying in the bath tub or on a bed pan, and under no circumstances should the container be placed more than 18-24 inches above the level of the hips.

The patient who presents herself from six weeks to four months post-partally presents a similar problem, and pelvic examination should be made regardless of bleeding unless it is that of a normal menstrual period. The patient commonly complains of the symptoms originally described, and utmost care should be exercised in determining the position of the uterus and its station in the pelvis. When the uterus is in a normal anterior position without prolapse, it will usually respond to the use of oxytoxics, as previously described, and hot douches. If the patient continues to bleed regardless of conservative measures, dilatation and curettage should be done, to check the annoying loss of blood and to rule out the presence of degenerative lesions of the placenta, namely, hydatidiform, mole and choroepithelioma. These degenerative lesions are frequent cause for persistent bleeding following currettment, and in event the bleeding persists ordinary and fractional urinary Friedmann tests, and spinal fluid Freidmann tests are definitely indicated.

In the presence of mal-positions of the uterus the outlined treatment should always be supplemented by correction of the mal-position. The use of the Smith or Hodge pessary results in no discomfort or incapacitation of the patient provided the pessary is properly fitted, and the malposition of the uterus corrected before its insertion. Prolapse and retrocession of the uterus present little problem except that of diagnosis. Prolapse may always be recognized by application of a tenaculum to the cervix with the patient in the recumbent or lothotomy position, where gentle traction will bring the cervix to the level it maintains with the patient erect. Examination should always be made with the patient standing, and prolapse may be readily recognized.

Retrodisplacements of the uterus present a more complicated problem, and manual replacement of the uterus is necessary before insertion of the pessary. Frequently in the early post-partal period manual replacement is easily accomplished by a gentle pressure in the posterior fornix of the vagina which frees the uterus from the cul-de-sac of Douglas. Occasionally, a retrodisplaced uterus which seems hopelessly fixed in the cul-de-sac responds readily to one of three simple methods of reduction; first, application of a tenaculum to the cervix so the uterus may be pulled down and the use of the vaginal hand facilitated with the uterus dislodged from its position by the same maneuver; second, with the patient placed in the knee chest position and a tenaculum applied to the cervix, gentle traction plus slight pressure with a sponge on a holder in the posterior vaginal vault will reduce the displacement; third, introduction of a proctoscope with the patient in the knee chest position will fill the rectum with air and dislodge the uterus.

Following manual replacement of the uterus a Smith or Hodge pessary should be inserted to hold the uterus in its anterior position. The pessary should be worn for eight to twelve weeks, and in the majority of cases there will be no recurrence of the mal-position. During the period of wearing the pessary the patient should take daily douches, and the pessary should be removed, cleansed and reinserted every three or four weeks. Painless insertion may usually be accomplished by stretching the perineal tissue with a vaginal finger prior to insertion of the pessary.

The patient more than four months postpartal should be given the benefit of the conservative treatment just described, however radical treatment is often required. Dilatation and curettage will often reveal an advanced hyperplasia of the endometrium, and following curettment the use of antuitrin-S during the differential stage of the endometrium to aid luteinization will help to prevent recurrence. One cc. or 100 units should be given on the 21, 23, 25 and 27 day of the first two or three menstrual cycles following curettage.

Cure of malpositions of the uterus is less frequent, and manual replacement of the ertrodisplaced uterus becomes progressively more difficult with the passage of time. However, they are successful frequently enough to justify persistant use of them over a period of several months before operative treatment is advised.

Intracranial Injuries*

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HEAD INJURIES have assumed a leading role among the causes of death and permanent disability as our industrialization and transport grow.

It seems to me that in the mind of the general practitioner and the general surgeon that brain surgery has been the holy ground to be trod only by the chosen few. Yet, while we all agree that most head injuries should be treated conservatively, a large per cent of those in which surgery is indicated should have immediate relief and there is no group of cases in which the results may be more spectacular. I would not advocate indiscriminate craniotomy but in my own limited experience there have been observed tragedies because surgery has been delayed too long. The best known authorities vary so widely that one is forced to his own conclusions. Dr. Deaver used to say that "students in school gain knowledge and after much experience begin to acquire some judgment and at long last, just before shuffling off the mortal coil, one begins to gain wisdom." One often thinks of this adage as he reflects over the confusion in the treatment of head injuries.

We were all taught the great necessity of close observation following any lick on the head, yet all of us have seen cases which were not closely observed and ended in tragedy. We are all familiar with the man who was thought to be drunk and was found dead in jail the next morning. Have we not all known accounts of the football player who was knocked out, regained consciousness, thought not to be seriously injuried and later died of intracranial injuries? or the boxer who was knocked out? or the boy on the playground? Though at first glance it may seem radical, we must all agree that our athletic directors, policemen, etc., should be taught the necessity of keeping those cases quiet and getting them to a doctor for observation.

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*Read before the Northeast Mississippi Thirteen Counties Medical Society, June 3, 1939, Houston, Miss.

Certainly any head injury serious enough to cause any unconscious period, however short, is serious enough to have the closest watch for twenty-four hours. Hospitalization should be had if possible. If this is not feasible then some intelligent person in the family must be advised of the seriousness and taught to observe. Any other procedure is bound to end in tragedy.

SIMPLE CLASSIFICATION OF HEAD INJURIES

1. Those in which the skin is broken and; 2. those in which the skin is not broken. Those in which the skin is broken include those very numerous lacerations and macerations without bony injury or intracranial injury. It is not the purpose of this paper to discuss these injuries except to say that most of them are inadequately treated. I most heartily disagree with the common adage that all scalp injuries should be drained. With thorough shaving and cleansing under local anesthetic with a good stiff brush and plenty of soap and water plus debridement, there should be better results than lacerations in any other part of the body because of the good blood supply.

The first of these divisions also includes compound fractures of the skull as above outlined. After the period of shock, repair surgery should be done if observation indicates any compound fractures.

I pass rapidly over this group to come to the second group which includes a much more numerous group of cases. There may be a much more extensive fracture or serious brain injury without interruption of the integument than with interruption. The severity of brain injury does not necessarily have any relation to fractures unless the fracture is depressed. The brain is in a closed box. It will not tolerate any encroachment upon the space it occupies. As will be discussed later, all treatment of brain injury is aimed at decompression. A severely injured brain probably fares better when there is a fracture which will allow some decompression than the lacerated, oedematous brain which cannot decompress itself. It is not necessary to know whether there is a fracture in the first twenty-four or forty-eight hours after injury unless examination of the head indicates probable depression.

CLASSIFICATION

1. Compound fractures, (mentioned above).
2. Linear fracture of the vault.
3. Depressed fracture.
4. Fracture of the base.
5. Fracture into the frontal sinus.

Again with special reference to fractures of the vault, the brain is probably better off with a fracture than without. Treatment is conservative; bearing in mind the condition of the brain, first treatment is directed to combat shock. Most of these cases, if they survive the period of shock, will live. Secondary treatment is aimed at decompression. Depressed fractures must be elevated as soon as shock is over. No matter how small, they impinge on the closed cavity in which the brain is encased and will eventually cause symptoms. This is a group of cases with apparent trivial injury which will later turn up with symptoms varying from headaches to Jacksonian seizures. Fractures of the base, because of the location, cause more hemorrhage and more damage to the vital centers, also more blocking of the ventricular system. Yet not all fractures of the base are fatal. I have seen large fractures of the base which caused few symptoms.

INJURIES OF THE BRAIN

1. Concussion: The term concussion is misleading. It is generally understood to mean a simple shaking up of the brain. In all cases, however, in which there is force enough to cause any cerebral symptoms, there is some oedema with perhaps petechia and probably minute lacerations. I doubt if there can be any lasting frank cerebral symptoms without some physiopathological changes. These again are cases which are passed over lightly after several days eventually to end in the hands of the psychiatrist. These are the cases in which we have the so-called traumatic neurosis. Many of them are due to obscure lesions in the frontal lobe. Fay has shown that a long period of convalescence is required after any cerebral injury. It is a stigma to the general practitioner and to the general surgeon that so many of these cases are eventually treated by the neuropsychiatrist.

2. Extradural hemorrhage: Extradural hemorrhage is usually from the middle meningeal artery. Arterial bleeding is not inclined to stop until the vessels are ligated. This is one clear-cut indication for immediate surgical relief.

3. Subdural hemorrhage: In most severe

head injuries there is some subdural hemorrhage. This will be indicated by a bloody spinal fluid. This hemorrhage contrary to the extradural hemorrhage is from the large veins which cover the brain. There is more often a slow ooze and, contrary to common conception, most of these cases are relieved by conservative treatment. This type of hemorrhage is apt to recur after several days if the patient does not have proper treatment and rest. It is principally this group of cases that all authorities insist must be kept absolutely at rest for ten days or two weeks regardless of whether the symptoms at first seem serious or not. The typical case of subdural hemorrhage is that in which symptoms of increased intracranial pressure come on from several hours to several days after injury. If these cases do not respond to conservative treatment they eventually form an incapsulated hematoma. The hematoma may or may not be over an area which can be localized.

CASE OF HEMIPLEGIA

4. Internal hemorrhage: Internal hemorrhage and lacerations of the brain. This is the group that is most obviously gravely injured and presents the picture of profound shock. They are seen most often in compound and basal fractures. The large percentage of these cases dies. If they survive the initial period of shock and the secondary conservative treatment there may be elective surgery to offer them relief at a later date.

TREATMENT

There were at least two great lessons learned from the surgery of the World War: 1. that chest surgery is too radical and 2. that head surgery is too radical. The pendulum swang in the opposite direction. During the last ten years the average mortality from head injuries in the large clinics has been reduced from 35 to 25 per cent. It is all together reasonable that those of us who are working in small institutions and can give our patients more personal attention can reduce this mortality percentage a great deal.

All are agreed on the initial period of treatment for shock. External heat should be applied, stimulants such as caffein sodium benzoate should be given and 50 cc. of 50 per cent glucose intravenously every two or three hours. The 50 per cent glucose, of course, has a dehydrating effect on the oedema brain (from observation I have learned that there is a secondary reaction following glucose which is not observed with the use of other saccharids. We have begun the use of sorbitol at this time). Transfusions may be indicated because of loss of blood volume from hemorrhage or because of capillary dilatation which is secondary to the disturbance of the nervous mechanism.

After the period of shock lacerations or compound injuries are suitably debrided.

As the patient begins to emerge from shock (and there is a large group of patients who do not show obvious shock but who will show profound mental and physical changes), blood pressure, pulse rate, and observation for localizing signs must be charted every short interval, preferably every fifteen minutes and not less often than every hour for twenty-four to forty-eight hours.

There are two schools of thought as to the value of spinal puncture during this period: 1. Dandy believes that there is great danger of herniation of the medulla from spinal tap and that no benefit is derived from it. 2. Temple Fay believes that frequent spinal punctures, done carefully at regular intervals, with a manometer while slowly decompressing the spinal fluid is of great value. I have had experience with both schools and it is my feeling that spinal puncture at definite intervals slowly lowering the pressure does reduce the oedema of the brain and eliminate the blood in the subdural space and the ventricular system. It is our plan in the first few days to do a spinal tap twice daily and follow by the administration of 500 cc. of the 10 per cent glucose. In this group of cases there is a certain definite subgroup which after several days without showing localing signs will show a tendency to increase intracranial pressure as recorded on the manometer and a secondary rise in blood pressure with a lowering of the pulse. This indicates that conservative treatment has not taken care of the internal hemorrhage. I believe in this group of cases we have been too conservative. I have seen three or four such cases die after four or five days which were not operated upon because they showed no localizing signs. It is my feeling such cases might be saved with a decompression.

All cases of serious intracranial lesions should be kept absolutely quiet in bed for ten days or two weeks. It has been shown that oedema will not subside in less time and that secondary hemorrhage is apt to occur. Fluid intake should be sharply limited not only during this period but for several months after convalescence. If we observe these cases patiently for several months with proper sedation and control, fluids and rest, we can greatly lower incidence of post-traumatic neurosis.

Indications

There are at least three indications for emergency surgery that we general surgeons are justified in handling. 1. Extradural hemorrhage from the meningeal artery: An ample osteoplastic flap should be done so that the hemorrhage can be readily seen and controlled. 2. All depressed fractures: It is not necessary to comment on the surgery but to say that the fragments should be suitably elevated. 3. That group of cases which in spite of adequate conservative treatment, after several days began to show secondary rise of blood pressure and spinal fluid with or without localization signs should at least be a subtemporal decompression. These are, of course, indications of surgery but these can be handled as elective cases and should be referred to the neuro-surgeon.

Sulfanilamide*

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Its Use in General Practice

In my opinion sulfanilamide, and its more recent derivative, sulfapyridine (dagenan or pyridine), are destined to take their places alongside of neoarsphenamine, liver, and insulin in the realm of therapeutics.

There are numerous clinical uses of sulfanilamide, some of which are listed as follows:

1. Puerperal fever.
2. Postabortion septicemia.
3. Complications of scarlet fever.
4. Erysipelas.
5. Nasal, postnasal and throat involvements of hemolytic streptococcal origin, including septic sore throat.
6. Otitis media and mastoiditis.
7. Cellulitis.
8. Pneumonia.
9. Cerebrospinal meningitis.
10. Gonorrhea and other genito-urinary infections.
11. Acute cholecystitis.
12. Appendix abscess.
13. Subphrenic abscess.
14. Septic compound fracture.
15. Gas bacillus infections.

The action of sulfanilamide is purely a chemical one. It modifies or desensitizes the invading organism, inhibits its growth and reproduction, neutralizes toxins and renders the organism vulnerable to attack by human cells and serum. It does not kill the organism.

Modes of Administration

Sulfanilamide may be given by mouth, intramuscularly, intravenously, subcutaneously or intraspinally.

The powdered form in ampules is used intravenously and intraspinally in normal saline solution. To each 50 cc. of sterile warm normal saline add 30 grains of sterile powdered sulfanilamide or 60 grains to 500 cc. normal saline. This must be made fresh every day.

The absorption of sulfanilamide is rapid, reaching its highest concentration in about four hours after given by mouth. Therefore, it should be given every four hours, day and night. As it is rapidly excreted by the kidneys the kidneys should be carefully watched. It is widely distributed in the body, fluids being found in blood, bile, mother's milk, spinal fluid and urine.

The toxic effects of sulfanilamide are numerous and vary in each individual. After the ingestion of sulfanilamide the following symptoms have occurred: general malaise, lassitude, weakness, fatigue, exhaustion, sleepiness, stuffiness, punch drunk, headache, tinnitus, dizziness, mental confusion, loss of memory with deafness, sensation similar to alcohol intoxication, hyperpnea, anorexia, nausea, vomiting, indigestion, general intestinal disturbance, diarrhea, constipation, difficulty in micturition, slowing of loss of force of urinary stream, paresthesiae, sensitiveness of skin of lower extremities, and tingling of the toes. Some of these symptoms may appear about six hours after ingestion of 3 grams of sulfanilamide. The patient is much more likely to have symptoms if he is ambulatory while taking the drug. These symptoms usually subside in 24 to 48 hours after the medication is discontinued. During the time that an individual is under the influence of this drug, he should not fly or drive a motor vehicle. Cook has stated his belief that approximately 10 per cent of all individuals cannot tolerate the drug.

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*Read before the Delta Medical Society, Greenville, Miss., April 12, 1939.

The use of prontosil or prontosil soluble produces a red urine, pink skin and mucous membranes. Colebrook and Kenny reported that these dyes were mildly irritant to the urinary tract tissues, however, no late or permanent ill effect was noted. Mitchell and Traxhsler reported hematuria following 225 cc. of prontosil soluble and 2.66 gm. of sulfanilamide. Foulis and Barr reported two cases of mild albuminuria following ingestion of sulfanilamide.

On October 11, 1937, the American Medical Association received notice of the first death due to ingestion of a proprietary product labeled Elixir of Sulfanilamide—Massengill. By November 11, a total of 73 deaths due to this preparation had been reported. Intensive chemical, pharmacologic and pathologic investigations have exonerated sulfanilamide as the causes of these deaths. It has been shown that diethylene glycol, which was present in the Elixir of Sulfanilamide—Massengill, in approximately 72 per cent by volume, is a very toxic substance and a cumulative poison. The general pathologic picture was that of a severe chemical nephrosis with intracellular edema of most of the epithelial cells of the convoluted tubules, resulting in tubular obstruction by compression and by the intraluminal formation of casts.

Nervous complications have been rare clinically. Bucy has reported the case of a girl with osteomyelitis who was given sulfanilamide on three separate occasions. The first two times unpleasant symptoms occurred; the last time a severe loss of vision due to toxic optic neuritis occurred after the administration of a single tablet (0.3 gm.) of the drug.

COMPLICATIONS

Cyanosis.—Cyanosis is the most conspicuous and a very frequent sign after administration of sulfanilamide. Long and Bliss have noted it in 90 per cent of the patients treated with sulfanilamide. Carey reported its presence in 31 of 38 patients. Hageman found cyanosis associated with methemoglobinemia in approximately 50 per cent of 68 patients. The cyanosis varies from mild bluing of the lips to a rather intense slaty discoloration of the lips and nail beds. Long and Bliss have seen cyanosis appear five hours after beginning treatment and disappear in a few days while intensive treatment was being continued.

Long and Bliss, Paton and Eaton, and Bensley and Ross are on record as believing that cyanosis is not an indication to stop the administration of sulfanilamide in most cases. However, since as much as 60 per cent of the hemoglobin may be changed to an inert form, continuation of treatment may be dangerous in a patient with anemia. Frost reported a fatal case in which the signs just before death were those of respiratory failure; necropsy showed no other cause of death.

Several investigators have found methemoglobinemia and sulphemoglobinemia the cause of the cyanosis following administration of sulfanilamide.

Severe cyanosis due to methemoglobinemia seems to be aided by oxygen therapy, while that due to sulphemoglobinemia is not influenced by oxygen therapy . . . Methemoglobin disappears 24 to 48 hours after sulfanilamide is stopped. Sulphemoglobin has been detected six weeks after cessation of the drug.

Colebrook and Kenny, Discombe, Frost and Paton and Eaton reported the first 14 proved cases of sulphemoglobinemia following sulfanilamide or its derivatives. Of these 14 cases, 11 had received magnesium sulfate and one had sodium sulfate dressings previous to the administration of sulfanilamide. These authors have warned against the use of sulfates in conjunction with, or 2 or 3 days before the administration of, sulfanilamide. Since these first reports of sulphemoglobinemia there have been reports of other cases in which sulfates had not been used.

Archere and Dicmombe . . . explained the action of magnesium sulfate in stimulating the formation of sulphemoglobinemia on its cathartic and osmotic action rather than on the vague possibility of the sulfate being reduced to a sulfide. To prevent or delay the formation of sulphemoglobinemia they recommended cleansing the colon with enemas before starting treatment, 20 to 45 cc. of mineral oil daily, and a low residue diet with only a few eggs.

Marshall and Walzl did not deny that sulphemoglobin as well as methemoglobin may occur under certain conditions after the administration of sulfanilamide, but they considered these abnormal iron pigments were probably not the main explanation of the cyanosis. They observed that the dark color of the blood may be due to the presence of a black oxidation product of the drug which stains the red blood cell. Long and Bliss have been uncertain whether patients treated with sulfanilamide develop sulphemoglobinemia.

Acidosis. — Southworth reported 2 cases of clinical acidosis following the medication with sulfanilamide. The carbon dioxide combining power of the plasma fell to 36.2 and 27.7 volumes per cent. The first patient returned 2 months later without fever or infection and took approximately the same dosage of sulfanilamide—6.9 gm. in 60 hours. The carbon dioxide combining power fell from 59.8 to 37.2 volumes per cent though there was no definite clinical evidence of acidosis. He then studied 15 consecutive sulfanilamide treated patients for changes in carbon dioxide combining power. The initial determination on these patients who had fever and infection before the administration of sulfanilamide varied from 54.1 to 65.5 volumes per cent. Each of the 15 showed a decrease after therapy; the average decrease was 14.1 volumes per cent. There was no clinical evidence of acidosis. Long and Bliss also believed that the hyperpnea was the result of acidosis. They reported 4 cases of clinical acidosis—air hunger and alkaline urine without ketonuria. To them the fall in carbon dioxide combining power seemed to be associated with marked loss of sodium and potassium in the urine; they have routinely given 0.65 gm. of sodium bicarbonate with each dose of sulfanilamide to prevent this decline.

In opposition to the idea that hyperpnea resulted from acidosis in these cases, Basman and Perley found that large doses usually caused hyperventilation which may be mistaken for dyspnea or acidosis. Such hyperventilation quite uniformly was noted, together with reduction of 10 to 15 volumes per cent of the carbon dioxide content of the blood. They found the urine regularly above PH7 which they believed indicated that the blood change was a carbon dioxide deficit type of alkalosis, in response to primary hyperventilation, and not one of mild acidosis. Both groups have advised 1/6 molar sodium lactate for acidosis.

Fever and rash.—Long and Bliss have described the development of fever of 102 to 103 degrees F. in 8 to 12 hours after subcutaneous injection of 100 cc. of prontosil soluble, which lasted for 12 hours. Fever due to the drug will usually subside within 24 hours after the drug is stopped. Febrile reactions following the administration of sulfanilamide have been reported by other investigators.

In a series of 134 patients treated with sulfanilamide Hageman and Blake found what they called **drug fever** occurring in 21 patients, 7 to 10 days after institution of therapy. The fever which ranged from normal to 106 degrees F. with an average duration of 2 to 4 days, was accompanied by a morbilliform rash in 9 patients. The analogy of the time interval, fever, and rash to serum sickness was considered. An increasing number of cases of rash, almost universally accompanied by fever, has been reported.

The rash has been most often described as morbilliform or scarlatiniform. In addition to the macules and papules, vesicules, purpuric areas, urticaria and edema may occur. The lesions may be discrete or confluent, localized or general over the body. Pruitus may or may not be present. After subsidence of the rash a recurrence sometimes may be caused by readministration of the drug. A few patients with this rash have given positive skin reactions to patch or scratch tests with sulfanilamide.

On September 25, 1937, three articles were published definitely connecting the appearance of a rash while ingesting sulfanilamide to a preceding exposure to the sun. The rash appeared on the areas which had been exposed to the sun 12 to 24 hours previously. Other articles have confirmed this photosensitizing effect of sulfanilamide.

Anemia.—Harvey and Janeway have reported 3 cases of acute hemolytic anemia in which the hemoglobin rapidly dropped to 12 per cent, 30 per cent, and 40 per cent. The anemia was promptly improved and symptoms disappeared after cessation of the drug and transfusions of citrated blood . . . Since the above report, Bohlman reported that Janeway has noted 8 additional cases of acute hemolytic anemia. One with hemoglobinuria and uremia following sulfanilamide. Long and Bliss have seen 7 cases, of which 6 had jaundice. All recovered. Hon reported the case of a white girl, aged 1, who developed acute hemolytic anemia with a drop in hemoglobin from 12.5 gm. to 6:0 gm. after 3.6 gm. of sulfanilamide had been administered in four days. The urine contained albumin, hemoglobin, urobilin, erythrocytes, leukocytes, and many casts. Recovery was uneventful after a transfusion." Carey reported a case that showed a drop in erythrocytes from 5 million to 2 million per cubic mm. McQuarie reported a case of marked hemolytic anemia developing in a child after 10 days of prontosil soluble and sulfanilamide therapy. This patient died in spite of transfusions.

Jaundice naturally occurred in a large number of the cases of hemolytic anemia. In other cases of jaundice, the drug has not been definitely incriminated. The first case of Harvey and Janeway showed a 30 per cent recent retention at 30 minutes (5 gm. per kilo). Both returned to normal. A patient of Hageman and Blake had a bromsulfalein retention of 40 per cent associated with a febrile reaction. Eleven days after discontinuance of the drug, there was still a 30 per cent retention at 30 minutes.

Agranulocytosis. — Several investigators have reported cases of neutropenia associated with the administration of sulfanilamide in which the leukocyte count returned to normal when the drug was discontinued. Eight cases of agranulocytosis following the use of sulfanilamide or its derivatives have been found in English and American literature. Six died and two recovered . . . . It is interesting to note that in a majority of these cases, the agranulocytosis was not discovered until several days after the drug had been discontinued. This complication has followed the use of prontosil and benzyl-sulfanilamide as well as sulfanilamide.

Sulfanilamide is readily absorbed, and consequently it may be administered orally unless there is nausea and vomiting. It is absorbed from the gastro-intestinal tract in four hours, and may be found in different degrees in practically all of the body tissues. It is finally excreted almost entirely in the urine, particularly after the point of body saturation has been reached.

Sulfanilamide is not infallible, not a cure-all. One is struck by its capriciousness of action, even in infections caused by the same organism . . . In most instances, 75-90 gr. over a 24-hour period in six equal doses has proved the most successful means of administration. Then 60 gr. over 24 hours in four doses; then, 50 gr. over five to ten days are not harmful.

Sulfanilamide is described as being moderately non-toxic. It is excreted in the urine partly unchanged, partly combined within the urine. In renal insufficiency, excretion is decreased; therefore, the dosage should be lowered. The factor of idiosyncrasy should also be considered. The prolonged administration and total amount given are of greater toxigenic significance than the size of the individual dose. Some people develop a tolerance after one course, and sustain a milder reaction to subsequent doses of corresponding concentration.

Long and Bliss classify the toxic effects of sulfanilamide as being mild, moderate and severe.

1. Mild: general malaise most frequently observed, headache, anorexia, mild vertigo, tinnitus and nausea.

2. Moderate: May include the foregoing clinical symptoms, plus cyanosis (methemoglobinemía, frequently, or sulphemoglobinemia), numbness, tingling of hands, face or feet, skin manifestations (erythemamultiform, complications are abdominal pain, diarrhea, fever, acidosis, optic neuritis and a toxemia resembling that of ethyl alcohol.

3. Severe: (a) In addition to the above picture of severe toxicity, there may also be collapse, fever and rapid pulse. (b) Leukopenia and agranulocytosis with death. (c) Hemolytic crisis. (d) Jaundice.

Mild symptoms subside within moderation, or discontinuance of administration. Acidosis is combated with 10 gr. doses of sodium bicarbonate with each dose of sulfanilamide. To counteract toxic effects: (1) withdrawal of the drug; (2) force fluids (rapidly eliminated in the urine); (3) blood transfusion.

Sulphemoglobinemia may persist six weeks after treatment has been discontinued, but methemoglobinemia is no longer present after

24 hours (coincidentally with the disappearance of cyanosis).

"There is some claim at this time to specificity; for example, in certain hemolytic streptococcal infection, Neisserian infection and meningococcal meningitis . . . . Uncontrolled therapeutic promiscuity is uncalled for and too hurried an expression of acceptable or adverse criticism should not be rendered without reasonable trial.

In conclusion I would like to give you briefly the results obtained by Evans and Wilfrid in treating pneumonia with pyridine.

A group of 100 patients, unselected save for the exclusion of 3 who were moribund on admission, was treated and compared to a carefully chosen control group. The age of the patients ranged in both treated and control cases from 8 to 68 years. The sex incidence was 61 per cent males and 39 per cent females in the treated series and 67 per cent males and 33 per cent females in the control series. Typing of the pneumococci was attempted in all cases but the number of cases of each type was too small to be of significance in correlating the mortality figures with the type.

At the beginning of the investigation small doses were used. When it became apparent, after frequent white cell counts, that there was not tendency to the development of granulopenia it was decided to administer large doses. During the 72 hours immediately following admission, the routine being to give four tablets of 0.5 gm. (gr. vii ss) statim and two tablets every four hours thereafter, making an average total intake of about 25 gm. In a few cases this dosage was exceeded and a maximum of 9 gm. has been given in the first 24 hours with beneficial results. It was found that with this method the temperature and toxic symptoms, especially delirium, subsided more rapidly.

Cyanosis appeared in about a quarter of the intensively treated patients but disappeared promptly when the drug was withdrawn. Spectroscopic examination revealed the presence of methemoglobin in 6 of these cases. There was no sulphemoglobinemia. There was no evidence of renal damage as determined by routine examination of the urine and post mortem findings.

No other treatment was used save sedatives, and in one case a venesection and in another an intravenous infusion.

It is difficult to assess the results of treatment in pneumonia other than by consideration of the case mortality rate. The dramatic improvement which may occur at the crisis tends to focus undue attention on the treatment being employed at that time. The case mortality rates at Dudley Road Hospitable have been investigated for the past 2 years, and given the following figures. From January to April, 1937, 195 cases of lobar pneumonia were admitted giving a rate of 25.6 per cent. From January to March this year 136 cases were admitted with a case mortality rate of 30 per cent, giving an average combined rate of 27.8 per cent. This is very similar to the figure of 27 per cent mortality observed in our control series, while by comparison the results of treating the 100 cases of lobar pneumonia with pyridine show a case mortality of 8 per cent. It is worth noting moreover that of the 8 fatal cases, 6 died during the first few weeks of the investigation when we were giving small doses (an average of 3 gm. daily) which we now consider inadequate and furthermore 4 of these were suffering from pre-existing complications. Examination of the dates of the deaths in the control series shows that there was no diminution in the spontaneous virulence of the epidemic. Thus taking into consideration the similarity of the two series and making allowances for the crisis to be expected in any lobar pneumonia, the treated cases showed a distinct advantage over the controls.

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THE PNEUMONIA CONTROL PROGRAM

Through the co-operation of the State Board of Health, the county health departments, private physicians and private laboratories, a Pneumonia Control Program has been set up in Hinds, Warren and Lee counties. This seems to be a very wonderful service inaugurated for the indigent sick, but it still throws the burden of the care upon the private physician—where it should be—but without any compensation for his work.

The tremendous value of treatment with sulfapyridine, or type specific serum, or both, has been definitely proven. These agents cannot be used satisfactorily without a sputum typing service and without the sulfanilamide content of the blood being determined at intervals. The private laboratories in these counties have decided to co-operate in rendering this service for a minimum fee. The State Board of Health is providing for the indigent and low income group the laboratory service, the serum and sulfapyridine, so that no patient in these counties will be forced to go without adequate treatment. The private physician is assuming responsibility for treatment of these cases and he alone is responsible for the determination of the class of patient as to whether he is entitled to these agents or should pay for them. All patients are entitled to the services who are not able to pay for a sufficient amount of the therapeutic agents, and at the same time pay their physician and hospital bills.

Of course, there are certain blanks to be filled out to report these cases so that records will be available to determine the value of the service. In my opinion, this is one of the finest services rendered the people by the medical profession in a long time. I believe that many lives will be saved this winter by adequate treatment through this method and that some similar method will be developed over the state generally in the course of time.

The laboratory services are reported available in the following laboratories:

Hinds County: Jackson Infirmary, Baptist Hospital, and The Medical Clinic laboratories.

Warren County: Vicksburg Infirmary, Vicksburg Hospital, and Vicksburg Sanitarium laboratories.

Lee County: North Mississippi Community Hospital and Dr. A. J. Stacy's laboratory.

With the private physicians, the Mississippi State Board of Health, the county health Departments, and the private laboratories cooperating in this program we may expect to see considerable decline in mortality and morbidity from that dread Captain of Death—pneumonia.

—L. W. L.

DR. HARVEY F. GARRISON ELECTED PEDIATRICS CHAIRMAN

At the close of the 1939 session of the

Southern Medical Association which met last month in Memphis, Dr. Harvey F. Garrison, of Jackson, Mississippi, was elected chairman of the Section on Pediatrics. He is worthy and well qualified for this outstanding honor. We offer him our cordial endorsement and proudly acknowledge the credit he reflects upon Mississippi.

This honor is unique and more outstanding since Mississippi is a state of small towns and not endowed with pediatrics specialists.

DR. ANDERSON RECOVERING FROM ILLNESS

The editor-in-chief, Dr. W. H. Anderson, has been seriously incapacitated the past month, suffering from an infection of his right hand. A violent infection resulted from an accidental prick of the fleshy part of the little finger. He sends the season's greetings from his bed at the Baptist Hospital in Memphis, where he will remain perhaps until Christmas. His condition is favorable, although a convalescence of several weeks will be necessary for complete recovery.

The numerous expressions of concern, inquiries, flowers and thoughtful acts have greatly lightened a confinement that has been trying to one so active.

At the September meeting of the Northeast Mississippi Thirteen Counties Medical Society, held in Aberdeen, certain resolutions, looking towards the increase of appropriation for medical care of the indigent in Mississippi, were adopted. These resolutions were published in the October issue of THE MISSISSIPPI DOCTOR. We are asking that these resolutions be re-read and studied by the membership of Mississippi State Medical Association. It has been suggested that the course suggested in these resolutions would tend to establish state medicine. If this be true, we have had state medicine in Mississippi for a number of years, since we already have a per capita appropriation that is expended for hospital care of the indigent. It was stated by one writer in the MISSISSIPPI DOCTOR that those favoring the resolutions claimed or inferred that part of this present appropriation was used to defray expense of medical care of patients—that is that part of it is paid to doctors for their service. On the contrary it was definitely stated that doctors got no part of this appropriation, while all of it was paid to hospitals for such patients as might be hospitalized (mostly for surgical cases). It was further urged that a very small per cent of the indigent sick ever went to hospitals and that the vast majority of such indigent sick were cared for at their homes by doctors doing rural practice, and that no compensation was made for this service or for the medicine dispensed by these doctors. It was further urged that the plan suggested in these resolutions would forestall any possibility of state medicine or regimentation of doctors, since the relation now existing between doctor and patient would, in no way, be disturbed. It has, also, been suggested that this plan would, if adopted, run counter to the decision of the medical association at its Gulfport meeting, when it declined to adopt a plan offered by the FSA. This is, by no means, true since this plan is to care for those who are entirely indigent and the group in which the FSA is interested are a favored group who are endorsed to the government as being safe to extend loans.

It has been suggested that the plan outlined in these resolutions might not accord with plans in making by the A. M. A., and that it would be wiser and better to wait for any such plans to be promulgated by the national assoication. We fear that before anything is done by the national association we shall have state medicine fastened upon us. We heard one very influential U. S. Senator say that something along the lines of the Wagner bill would surely be done at the next meeting of congress unless it was forestalled by some positive move by organized medicine. Again we fear that the doctors who constitute the membership of the House of Delegates of the national association are not familiar with conditions as they exist in the remote sections where most of the indigent are to be found (especially in the South). In view of all these, and other considerations, this writer sent a copy of the resolutions just as they appeared in the October issue of the MISSISSIPPI DOCTOR, to Dr. Leland who has been, for many years, director of Bureau of Medical Economics for the A. M. A., and asked him to discuss them. This he kindly did and I have a three page closely type-written letter from him. We wish we might incorporate his entire letter in this editorial but it would require too much space. However, we will quote from this letter briefly. Dr. Leland says: "It appears to me that the general objective of this resolution is worthy, and in general, is in accord with a section of the report adopted by the House of Delegates at its special session in September, 1938. The section to which I refer reads as follows: 'Under Recommendation 111 on medically needy: Your committee advocates recognition of the principle that the complete medical care of the indigent is a responsibility of the community, medical profession, and allied professions and that such care should be organized by local government units and supported by tax funds.' I am of the opinion that efforts such as those expressed in your resolutions to provide means to meet the needs of the indigent and medically indigent population in obtaining attention, are thoroughly in accord with the policies of organized medicine."

It goes without saying that it was never the purpose of those proposing these resolutions at Aberdeen that the bill asking for the increase in appropriation should conform strictly to the verbiage of the resolution but that a bill should be prepared and sponsored by our legislative committee—such bill to embody the spirit of the resolutions.

* * * *

We feel sure that each reader of this journal sympathizes, deeply, with Dr. Anderson and his good wife, in the doctor's severe illness. We also feel sure that each one will rejoice in the hope that he may soon be able to leave the hospital and return to his home. However, we trust that he may give himself the rest that he so much needs and so richly deserves before again resuming the heavy work that he has been doing so long.

— G. S. B.

News and Comments

IN MEMORIAM

Dr. John Howard Buchanan, 1651 Faxon, Memphis, Tenn., died November 8, 1939, at the King's Daughters' Hospital at Greenville, from a fractured pelvis and internal injuries sustained in an automobile accident near Percy, Miss., November 5. At the time of the accident he was with a party returning from the Tennessee-Louisiana State football game played at Baton Rouge.

Dr. Buchanan was 33 and had been in practice six years. A native of Unicoi, Tenn., a graduate of the University of Tennessee Medical School, he served his internship at the Baptist Hospital, later establishing a clinic at 1419 Jackson. Dr. Buchanan was a progressive and successful young doctor in Memphis.

We extend deep sympathy to his wife, Mrs. Rosa Moore Buchanan, and his relatives.

* * * *

Funeral services were held at the Clarksdale Methodist Church for Mrs. Mary Osborne Dye, wife of Dr. T. M. Dye, secretary of the Mississippi State Medical Association and mayor of Clarksdale.

Mrs. Dye had been a resident of Clarksdale for 36 years, having moved from Sherard. She was born at Harriston, Miss., and later taught music in Florence. She married Dr. Dye at Florence and moved with him to Sherard in Coahoma County in 1901.

MISSISSIPPI DOCTORS ADMITTED

The following Mississippi doctors were admitted to fellowship in the American College of Surgeons October 16, 1939, at the Clinical Congress which convened in Philadelphia:

A. Dabney Hurt, Corinth.
James W. Lipscomb, Jr., Jackson.
Cummings H. McCall, Gulfport.
Guy Payne Sanderson, Vicksburg.
Clyde M. Speck, New Albany.
Richard A. Street, Jr., Vicksburg.
M. Brister Ware, Jackson.

POSTGRADUATE COURSE IN UROLOGY AT BILOXI DECEMBER 8 and 9

The Southeastern Section of the American Urological Association will hold its sixth annual meeting at the Hotel Buena Vista, Biloxi, Miss., December 8 and 9, 1939.

One of the purposes of this organization is to have its programs so arranged as to form a postgraduate course for the benefit of the general practitioner of medicine. There will be no registration fee. Each physician in Mississippi is invited and urged to attend this meeting. The ladies are especially invited to attend and there will be entertainment features for all. The program will begin at 12 o'clock noon Friday, December 8, and continue through Saturday morning until noon. The following men are to be present and discuss subjects listed below:

Dr. Roy Heflin, New York City, Associate

Professor, Cornell: "Prostatic Calculi."

Dr. Reuben Flocks, Iowa City, Assistant Professor, Iowa State: "Urinary Calculi."

Dr. Charles M. McKenna, Chicago, Ill., Professor, University of Illinois: "The Correction of Some Anomalies of the Genito-Urinary Tract in Children, With Special Reference to the Transplantation of the Ureter into the Large Bowel for Bladder Exstrophy."

Dr. E. G. Crabtree, Boston, Mass., Professor at Harvard: "Hypertension in Relation to Kidney Disease."

Dr. Roger W. Barnes, Los Angeles, Calif., Professor, Medical Evangelists: "Carcinoma of Prostate."

Dr. Edward W. Cook, Mayo Clinic, Rochester, Minn.: "Urinary Infections."

Col. J. E. Ash, Curator, Medical Corps, U. S. N., Washington, D. C.: "Bladder Tumors."

Dr. George R. Livermore, Memphis, Tenn., Prof. at Tennessee: "Carbuncle of the Kidney."

Dr. Edgar Burns, New Orleans, La., Assistant Professor, Tulane: "Prostatic Obstruction in Negroes."

QUITMAN U. NEWELL, M.D.

President-elect Southern Medical Association

We first met Dr. Newell several years ago on a Thanksgiving Day which he had planned to spend hunting birds near Macon, Mississippi.

From that time he has been a most delightful and helpful friend. Dr. Newell has the true professional mind and a great heart, qualifying him to fill the presidency of the Southern Medical Associaiton in unexcelled fashion. To him we offer our most sincere congratulations and pledge our willing support.

Born at Whistler, Alabama, June 14, 1886.

M.D., University of Alabama School of Medicine, 1911.

Interne, Washington University Hospital, 1911-1912.

Resident Obstetrician and Gynecologist, Washington University Hospital, 1912-1914.

Assistant in Clinical Obstetrics and Gynecology, Washington University Medical School, 1914-1921.

Instructor, 1921-1925.

Assistant Professor, 1925-1933.

Associate Professor, 1933-1936.

Professor, 1936.

Assistant Surgeon, Surgeon and Chief of Gynecological Out-Patient Clinic, Washington University Dispensary, 1914-1932.

World War, December, 1917 to June, 1919, Captain Evacuation Hospital, No. 18.

PRESENT STATUS: Professor of Clinical Obstetrics and Gynecology, Washington University Medical School.

MEMBER OF STAFF: Barnes, St. Louis Children's, St. Louis Maternity, St. Luke's, Missouri Baptist, and Missouri Pacific Hospital.

MEMBER: St. Louis Medical Society, St. Louis Surgical Society, St. Louis Gynecological Society, Missouri State Medical Association, Southern Medical Association, Southern Surgical Association, Mississippi Valley Medical Society, American Medical Association, American College of Surgeons, American Association of Obstetricians, Gynecologists and Abdominal Surgeons, Central Association of Obstetricians and Gynecologists, etc.

NORTHEAST MISSISSIPPI THIRTEEN COUNTIES MEDICAL SOCIETY

Held at Tupelo, Tuesday, December 12.

PROGRAM:

Meeting called to order by the president, Dr. J. W. Lipscomb.

Invocation by Dr. W. A. Tyson, Pastor of the First Methodist Church.

Reading and adoption of minutes of last meeting.

Paper: "Treatment of the Pneumonias."—Dr. W. A. Evans, Aberdeen.

Paper: "Treatment of Pneumonia in Infants and Children."—Dr. H. F. Garrison, Jackson.

Discussion by Dr. J. F. Underwood.

Paper: "Acute Pelvic Appendicitis."—Dr. John W. Williams, Greenville.

Paper: "Diagnosis and Surgical Management of the More Common Lesions of the Colon."—Dr. R. L. Sanders, Memphis.

PROGRAM

MISSISSIPPI PUBLIC HEALTH ASSOCIATION

(Held at the Robt. E. Lee Hotel, Jackson, Miss., December 6-8, 1939).

General Session: (Presiding, Dr. F. Michael Smith, President, Vicksburg).

DECEMBER 6

1. "Epidemiology in Local Health Service."—Dr. A. L. Gray, Jackson.

2. "Correlation of Instruction in Sanitation with Public Health Practice."—Mr. Roy J. Morton, Asso. Prof. of Preventive Med., Vanderbilt Univ., Nashville.

3. "The Element of Personality in Professional Success."—Miss Jeanette Serrec, Lecturer, Fort Worth, Texas.

4. "Teamwork—the Public Health Worker and His Professional Society."—Dr. Reginald M. Atwater, Exec. Secty., Amer. Pub. Health Assn., N. Y.

DECEMBER 7

5. "Health Education in the Schools."—Dr. J. L. Bowman, Member of Governing Council, Amer. School Health Assn., Montgomery, Ala.

6. "Sound Concepts in Health Education."—Dr. Ruth E. Grout, Sen. Supervisor, Health Education, TVA, Chattanooga, Tenn.

7. "A Study of Tuberculosis in High Schools on a State-Wide Basis."—Dr. Robt. H. White, State Co-ordinator in Health Education, State Dept. of Health, Nashville, Tenn.

8. "Health Plus Education Equals Health Education—Factors in the Failure or Fulfillment of a Formula." — Dr. H. H. Walker, Asso. Prof. of Health Education, Univ. of Tenn., Knoxville.

9. "Public Health Nutritional Problems in the School Child."—Dr. James S. McLester, Prof. of Med., Univ. of Ala., Birmingham.

10. Response.—Mr. J. S. Vandiver, State Supt. of Education, Jackson.

DECEMBER 8

11. "How a Part-Time Health Officer Can Foster and Facilitate the Establishment of Permanent Health Work."—Dr. W. D. Smith, County Health Officer, Senatobia, Miss.

12. "Inherent Harm to Public Health in Erroneous Advertising."—Dr. K. E. Miller, Med. Adviser, Fed. Trade Commission, Washington, D. C.

13. "Our Problem—Maternal Health, and How It Will Be Met."—Dr. Frances Rothert, Regional Med. Consultant, Federal Children's Bureau, New Orleans.

(Special "sectional programs" on timely subjects by outstanding speakers.)

BOOK REVIEWS

Have you purchased your new DAILY LOG for 1940? The complete, handsomely bound and chartered one which we know as Dr. Colwell DAILY LOG, sold by the Colwell Publishing Co., of Champaign, Ill., is as neat and compact as you will find on the market. Every patient which consults or receives treatment in your office is entered on the date prescribed, with all the details of services rendered, charges etc. At the close of the year your DAILY LOG is complete and ready for quick reference. It may be placed along side of your ledgers of preceding years for permanent files; yet it requires no more space than a handy library volume. Price: $6.00.

NUTRITION AND DIET IN HEALTH AND DISEASES by James S. McLester, M.D., Professor of Medicine, University of Alabama, Birmingham, Alabama. Cloth. Price, $8.00. Pp. 838. Published by W. B. Saunders Company, Philadelphia and London, third edition, 1939.

This excellently written book describes the manner in which the several food stuffs are utilized and discusses the influences exerted by each. Part I treats of nutrition in health in three sections, dealing with the need for food and its utilization, the food products, and diet in health. Nutrition in diseases is the topic of Part II while Part III is an appendix of menus, methods of cooking and scientific tables of foods with chemical analyses.

The book is filled with illustrative charts and detailed tables, and has practical menus to be used for all groups of people, both sick and well. The relatively large space given to the consideration of the nature and physiologic influences of the several nutritive substances will be of aid to intelligent dietary management.

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H. R. Shands, Jackson

COMPONENT SOCIETIES

County Society	President	Secretary-Editor	Time of Meeting
Adams	James C. Rice, Natchez	Fred Geisenberger, Natchez	Third Tuesday 7:30 p. m.
Alcorn	G. W. Googe, Corinth	Bernard Patrick, Corinth	Third Thursday 7 p. m.
Amite	W. S. Stewart, Osyka	H. A. Butler, Liberty	Second Thursday 7:30 p. m.
Central Medical	F. L. VanAlstine, Jackson	H. C. Ricks, Jackson	First Tuesday 7:30 p. m. Omit J and August.
Claiborne		G. W. Acker, Port Gibson	
Clarksdale and Six	W. H. Williams, Tunica	L. B. Austin, Rosedale	Fth. Wed. March and Sec. Wed.
Clarke-Wayne	W. P. Gray, Waynesboro	Albert Hand, Shubuta	
Coahoma	D. H. Griffin, Clarksdale	Julius L. Levy, Clarksdale	
Coast Counties	F. O. Schmidt, Ocean Springs	D. L. Hollis, Biloxi	
Delta Medical	G. Y. Gillespie, Greenwood	F. M. Acree, Greenville	Sec. Wed. Apr. and Oct. 2 p.
DeSoto	Henry M. Wadsworth, Hernando	L. L. Minor, Memphis, Rt. 4	
East Mississippi	C. H. Harrison, Philadelphia	Guy T. Vise, Meridian	
Franklin	C. A. Everett, Bude	L. Costley, Meadville	
Issa-Shar-Warren	Walter E. Johnston, Vicksburg	Alston Callahan, Vicksburg	
Jefferson	C. R. Senter, Byhalia	Herbert Phillips, Holly Springs	Second Thursday
Marshall		W. T. Harper, Fayette	
Newton	W. L. Henton, Decatur	Dudley Stennis, Newton	
North Mississippi	C. M. Speck, New Albany	A. H. Little, Oxford	Third Wed., Jan. Apr. Jul. Oct.
Northeast Miss.	J. W. Lipscomb, Columbus	A. J. Stacy, Tupelo	Sec. Tue., Mch. Jun. Sep. Dec.
Pike	E. M. Givens, McComb	T. Paul Haney, Jr., McComb	First Thursday
Pontotoc	J. H. Windham, Ecru	E. B. Burns, Pontotoc	
South Mississippi		Van C. Temple, Hattieburg	
Sunflower		H. B. Cottrell, Indianola	
Tallahatchie	G. Lacy Biles, Sumner	J. E. Powell, Charleston	
Tate	W. D. Smith, Senatobia	J. S. Eason, Coldwater	Second Wednesday
Cop.-Law.-Lin.-Wal.	R. S. Savage, Brookhaven	R. B. Zeller, Hazlehurst	Sec. Tue. Mar. Apr. Jun. Dec.
Webster	E. T. Arnold, Bellefontaine	H. K. Curry, Eupora	
Wilkinson	C. E. Catchings, Woodville	E. M. Butler, Centerville	
Winona District		S. B. Caruthers, Grenada	

Interpreting Medical Literature

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Obstetrics and Gynecology—J. W. Lucas, Greenwood.

Orthopedics—Thomas H. Blake, Jackson.

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Radiology and Roentgenology—Karl O. Stingily, Meridian.

Surgery—John Culley, Oxford.

Urology—Temple Ainsworth, Jackson.

Discussion and comments are invited.

DERMATOLOGY

The subject of whether to vaccinate allergic children for smallpox, or not, is one that escapes the attention of most of us until after we have already vaccinated some allergic child and find that the patient is not responding to vaccination in the normal way, or the usual way.

Dr. Francis A. Ellis, of Baltimore, wrote an article on the subject of "Eczema Vaccinatum: Its Relation To Generalized Vaccinia" in which he discusses the probability of eczema vaccinatum and generalized vaccinia being the same thing, and being caused by a virus that is disseminated by the blood stream and not by scratching or direct contamination. The virus used in vaccination at the present time is not a cowpox virus, as was formerly used, but is an attenuated smallpox virus, that has been attenuated by many passages through calves. The attenuation is permanent and irreversible even by innumerable transfers. He discusses only lesions that were caused by the blood borne virus, and that could be proved by Paul's test (inoculation of material from vesicle into the cornea of a rabbit). Two cases are reported. One child died, and one recovered but had scars at sites of lesions.

This article is well written and reviews the literature, both foreign and American, thoroughly. The most of the cases found were in the foreign literature, the evidence presented tending to prove that eczema vaccinatum and generalized vaccinia are essentially the same and that in both diseases the virus is disseminated by the blood stream. And lastly that eczema vaccinatum is apparently at times diagnosed Kaposi's varicelliform eruption or Juliusberg's pustulosis vacciniformis or variolaformis acuta.

ECZEMA VACCINATUM: ITS RELATION TO VACCINIA, Journal A.M.A., Vol. 104, No. 21, May 28, 1935. Francis A. Ellis, M.D.

In commenting on the above subject it occurs to me that the important thing is not what the disease is called, but whether allergic children should be vaccinated for smallpox or not, and if not how is one to determine which children should be allowed to go unvaccinated. And also can the health authorities force a child to be vaccinated against the better judgment of the family physician who knows that the child has had infantile eczema since a few months after birth, and there is a history of allergy in the family. Or on the other hand, should a child be allowed to go unvaccinated and run the risk of getting smallpox and giving it to other members of the community just because the individual has an atopic history and a history of infantile eczema.

— J. G. T.

PEDIATRICS

CHRONIC OTITIS IN CHILDHOOD WITH SPECIAL REGARD TO THE VITAMIN C METABOLISM, Bernfield, Karl, Feilchenfeld Maja and Hirsch, Walter, Annales Paediatrici, 153:222, July, 1939.—

The writers submit their findings in 53 cases of chronic otitis in a Jerusalem hospital. All were typical cases with central perforation, and all came from the same social cast. It is a known fact that these chronic conditions are very difficult to influence by local treatment. It is easier to prevent the chronic evolution of an acute otitis media, than it is to cure an already chronic one. Prophylactic measures to this effect are therefore of the greatest importance. Once the condition is chronic, every effort must be made to reach a possible general factor and, considering the notorious increase in the vitamin C requirements of the organisms during infections, it seems opportune to look for this factor here, all the more if the patients belong to poor ignorant social casts and, due to the prevailing custom, have been kept on an insufficient "sick diet." The examination falls into two parts, namely, general clinical examination and vitamin overloading tests.

The anamnesis revealed that more than one-third of the children (19) was "susceptible" to colds and sensitive to chills; 15 had never had any sickness before the chronic suppuration set in. Measles were reported 11 times, pneumonia and whooping cough three times each, angina six times, and scarlatina twice. In only a small percentage of the cases had the chronic condition been in progress for one year, in 11 for up to two years, and in no less than 14, between two and three years. Remissions and re-exacerbations for no obvious cause were reported by many.

The general clinical examination showed that more than 50 per cent were underweight and backward in their general development; only seventeen were in reasonably good general condition. Eleven had bronchitis, five a severe cold; eight showed pronounced symptoms of rickets, such as rosary, thoracic deformity, or the like. Seventeen children showed chronically diseased tonsils and signs of adenoid vegetations. In more than 50 per cent, the sternocleidomastoid and maxillary glands were palpable. All these figures, except perhaps that for the diseased tonsils, are not unusual for groups of this extraction.

More than 50 per cent of the group showed a marked vitamin C deficit. The fact that the children belonged to the same class of people, subject to the same faulty diet with regard to vitamin C (low in fruit and vegetables), lends a special value to this statement, establishing a relation between the ear disease and the vitamin C deficit. Of the 18 children in a good general condition, six showed a deficit of vitamin C and of the 18 children in a poor general condition, 13 showed a deficit. Anemia, leukocytosis and displacement to the left were present twice as often in the children with a vitamin deficit as in the children with a normal vitamin C metabolism, and sickness in the past, three times as often. No relation could be established between the vitamin C deficit and the duration of the chronic ear condition.

With due reserve, the writer's findings indicate that a C hypovitaminosis is a frequent phenomenon in chronic otitis. That it is not an accidental phenomenon was borne out by the fact that all of a group of children with acute otitis media, subjected to an overloading test, showed normal conditions. Also these children came from the same social cast as the children with chronic otitis.

The fact that the other half of the group with chronic otitis showed no vitamin C deficit is no counterargument. It is only another proof of the well-known fact that a constitutional factor plays an important role in the vitamin C metabolism in human, as well as in experimental, pathology.

Comment

It is apparent to us who are daily observing vitamin deficiencies that there is need for all of us to look more diligently, and with much concern, for evidence of the lack of proper vitamins and also for the necessary amounts to maintain a normal balance.

The above article is especially interesting and I commend its reading to the doctors of Mississippi.

The Present Status of Diphtheria and Tetanus Toxoids, Von Canon, O. L., Archives of Pediatrics, 56:409 (July) 1939.—

A review of the literature indicates that "the immunity derived from one dose of alum-precipitated diphtheria toxoid is inferior to that obtained by two doses of alum-precipitated toxoid or three doses of plain toxoid."

The basic immunity produced by tetanus toxoid is desirable. "A subsequent dose of tetanus toxoid, rather than antitoxin, can be given when there is an exposure to infection. However, tetanus antitoxin for immediate passive immunity should be used if the chances of infection are great. The third, or stimulating, dose of tetanus toxoid should be reserved for the individual who is allergic or who has had an improbable exposure to infection."

"Two doses of alum-precipitated toxoid apparently is the method of choice in both tetanus and diphtheria immunization. Ramon demonstrated that a combination of these toxoids produced better antigenic response than the separate use of each. Recently, Jones and Moss reported good results in students who were given two 0.5 cc. doses of combined diphtheria and tetanus toxoids, alum-precipitated.

"Therefore, since it is established that every child should be inoculated against diphtheria, the pediatrician is able to offer added protection against tetanus without additional effort by the use of this combined toxoid."

COMMENT

The abstract on the above subject is very timely. It has been our custom for several years to prefer the two doses of one-half cc. each of the combined diphtheria and tetanus toxoid. It is especially indicated in the allergic child, but we are using it now for all purposes of diphtheria tetanus prevention.

— H. F. G.

State Board Department of Health

FELIX J. UNDERWOOD, M.D.

SULFAPYRIDINE TREATMENT OF PNEUMONIA

A. L. GRAY, M.D.,
Director, Division of Preventable Disease Control, State Board of Health

The following material is a brief summary of part of an article prepared by the Pneumonia Committee of the Central Medical Society entitled "Treatment of Pneumonia with Serum and Sulfapyridine." The pneumonias cause an average of approximately 1,200 deaths each year in Mississippi. Recent developments in the treatment of pneumonia with sulfapyridine are most encouraging. It has been found that most all broncho and lobar pneumonias are the result of pneumococci.

Indications for the Use of Sulfapyridine:

Sulfapyridine treatment is indicated in all pneumonias due to the pneumococci, and the results are good in treatment of pneumonias due to streptococci and staphylococci. There may be some variations in the results of the treatment of the various types of pneumococcic pneumonia but it seems to be effective for all types[1, 2]. Its use is especially adapted for patients with a history of allergic conditions and those in whom sera therapy is contraindicated.

Contraindications:

The only contraindications that have been brought out are in cases which have shown reactions as a result of previous administration of sulfapyridine or sulfanilamide. These reactions are anemia, leukopenia, rash, fever, or kidney dysfunction.

Dosage of Sulfapyridine:

It is generally recommended that the dosage of sulfapyridine in an adult be an initial dose of 2 grams followed by 1 gram every 4 hours, day and night, until the temperature has been normal for 48 hours; then 1 gram every 6 hours until resolution is under way and then .5 gram 4 times a day until the lungs are clear or the patient is ready to leave the bed. An initial dose of 4 grams instead of 2 grams has also been suggested[3]. For younger people the dose should be gauged according to age or weight based on the above adult dose schedule. Wherever possible sputum should be typed prior to the beginning of sulfapyridine; otherwise, typing may be difficult later. It may be impossible for some patients to be kept on the drug due to reactions. In such a case, it is necessary to know the type of pneumococci in order to use serum therapy.

Toxic Symptoms from Sulfapyridine Therapy:

Toxic symptoms are usually unrelated to the dosage or the concentration of the drug in the blood. About 50 per cent of the cases have nausea and vomiting. To reduce the nausea and vomiting the drug should be crushed and administered in fruit juice, milk, or with sodium bicarbonate. Unless the nausea and vomiting become very severe the drug should be continued. Morbillous eruptions and drug fever occasionally follow the use of sulfapyridine. Hemolytic anemia and leukopenia may occur[4, 5]. Hematuria may result but usually leaves no pathology in the kidney tissue.

Usual Clinical Course of Cases Treated with Sulfapyridine:

The temperature usually falls to normal within 18 to 48 hours after beginning treatment. The elevated pulse rate subsides more slowly. Accelerated respiration may subside with temperature a day or so later. Signs of consolidation may clear rapidly, but slow resolution is more likely to occur.

Effect of Sulfapyridine on the Mortality from Pneumonia:

The expected mortality is approximately 25 per cent without specific therapy. In a series of 1,612 cases reported by Lord[6] the mortality was only 6.3 per cent. Other investigators have reported as good or better results. Therefore, we may expect the mortality from pneumonia to be reduced from 25 per cent to from 5 to 8 per cent with sulfapyridine therapy.

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DIAGNOSTIC SERVICE

The Division of Preventable Disease Control of the State Board of Health is frequently called upon for consultation in diagnosis and investigation of communicable diseases. Within the past few months services have been rendered in diagnosing and investigating leprosy, typhus fever, rocky mountain spotted fever, typhoid fever, and poliomyelitis through consultation with private physicians and health officers.

This is one of the functions of this division available at all times upon request. The degree of control possible in many communicable diseases is dependent upon early diagnosis and reporting of same. It frequently happens that delay in diagnosing and reporting of these diseases by private physicians results in the disease in question reaching epidemic proportions.

During November, the following physicians were employed by the Mississippi State Board of Health for a period of observation and training as county health officers:

SIMMONS, DR. ROBERT LOWREY:

Born in Summit, Mississippi.
B.A., 1932, Vanderbilt University.
M.D., 1937, L.S.U., Medical Center, New Orleans, La.
1 year interne, Charity Hospital, New Orleans.
1½ years visiting staff, Charity Hospital of Louisiana, Shreveport, La.
Director of Chest Clinic, Caddo Parish, Public Health Unit, Shreveport, La., 4 months.
Now located in Lauderdale County Health Department.

WEST, DR. EDWIN H.:

Born in Meridian, Mississippi.
M.D., Tulane Medical School, New Orleans, 1937.
1 year interne, Charity Hospital of Louisiana, New Orleans.
About 1½ years general practice, Purvis, Mississippi.
Now located Lee County Health Department, Tupelo.

CHANGES IN HEALTH OFFICERS

Dr. J. P. Ward succeeded Dr. B. F. Hand, resigned, as director, Washington County Health Department, Greenville.

Dr. E. W. Ryan succeeded Dr. J. P. Ward as director, Tallahatchie County Health Department, Charleston.

Dr. Ralph Sneed succeeded Dr. E. W. Ryan as relief health officer, Madison County Health Department, Canton, while Dr. J. H. Hines, director, is on scholarship, Vanderbilt University.

DeSOTO COUNTY

The Clarksdale and Six Counties Medical Association held its seventy-fifth semi-annual session at the usual place Wednesday, Nov. 8, 1939. The program was sponsored by the "Ole Miss" Medical School. During the year Dr. W. H. Williams of Tunica was president and Dr. LeRoy Wilkins of Clarksdale was secretary-treasurer. We did not lack many meetings of being a charter member of this fine organization.

When I joined, Drs. H. L. Sutherland, E. H. Martin, M. J. Alexander, J. W. Gray, H. C. Buck, S. W. Glass and others were active.

Secretary Wilkins is a native of this county, his mother still lives at the old home place in Olive Branch. His father was a physician of prominence here for a number of years. Besides his medical activities, as you know he is the treasurer of our state association, he is active in the American Legion and his church.

Genius is talent set on fire by courage. Fidelity is simply daring to be true in small things as well as great.

Courage is the standing army of the soul which keeps it from conquest, peonage and slavery.

Murphy's button, the ingenious apparatus used for fixing together the divided ends of the bowels in intestinal operations, was named for the inventor, Dr. John B. Murphy (1857-1916), famous American surgeon of Chicago.

Mrs. Dye, wife of Dr. T. M. Dye, and the mother of six exemplary sons, died recently at her home in Clarksdale.

Her life was a benediction; though stricken for years with a serious and painful illness, she was brave and strong in her simple faith and trust. She leaves a troubled world and has entered a home, prepared for such as her from the foundation of the world. She leaves a rich heritage and the world is better for her life.

The newspapers carried this morning the death of Mr. J. W. Evans of Bells, Tenn., the father of the efficient director of the county board of health, Dr. J. W. Evans, Jr. We extend to the doctor and the family our sincere sympathy.

The matter between our local medical society and the Farm Security Administration was held in abeyance until May, 1940, meeting of the Mississippi State Medical Association. This is the correct position in the matter.

The first water-cure was the flood, and it killed more than it cured. Charles Lamb.

The true test of civilization is, not the census, nor the size of cities, nor the crops—no, but the kind of man the country turns out.—Emerson.

The North Mississippi Medical Society held an interesting meeting the 25th of October in the Weir Memorial Building, University. The officers of this year are Dr. C. M. Speck of New Albany, president, and Dr. A. H. Little of Oxford, secretary-treasurer.

We notice in the daily press that the Tennessee State Dental Association and the State Board of Health have embarked upon a series of lectures and clinical demonstrations. "Many health troubles are caused later by disregard of the child's baby teeth." Dr. Charles A. Dana urges physicians to get a hobby, be a collector for example, of stamps, old books, or neckties or pins; or find diversion in some collateral branch of science; the lore of birds, of fishing. Make a garden or cultivate shrubs and flowers. These kinds of activities will make your life happier and your professional character more attractive and effective.

Our attention was called to Dr. Hugh Lewis Sutherland, one of Mississippi's best known physicians of a decade or two ago. Dr. Sutherland was stalwart, physically, mentally and morally, a physician of marked ability and a man of the highest character. Recently his grandson and namesake, Hugh Sutherland Johnson, a fine, upstanding and promising young man, was accidentally killed in Jackson by a fall; his home was in Cleveland with his mother, nee Miss Ree Sutherland.

The Associated Press also of December first date carried a 50 years ago happening to mark the opening of the Masonic Lodge at Benoit. Dr. Sutherland occupied a chair of importance in this ancient and accepted order.

Here we might mention that Dr. Sutherland was born near Canton, Miss., April 27, 1848. He was of Scotch descent. He received his A.B. from University of Mississippi in 1870, his M.D. from Tulane in 1873. His medical activities centered around Rosedale, Bolivar County. He was an active member of his county, state and national associations; he was president of the Mississippi State Medical Association in 1902-03, of the Tri-State Medical Society in 1904-05. He was on the program of various medical societies and a contributor to the medical press. He was a recognized authority on diseases and conditions peculiar to the great Mississippi Delta.

In 1878 he was happily married to Miss Ethel Cosby Burrus. Six children blessed this union. Their home was a happy one, where congeniality prevailed and it was a pleasure to be a guest therein.

Dr. Sutherland and my father were strongly attached to each other; nature had given to each of them the soul of a gentleman. From good, reliable and first hand information, my relator states that the Sutherland family were ideal hosts; among those that dwelt therein was a petite lassie of exquisite charm and grace.

This gentleman, my relator, was "looking around," not in a Micawberian sense, though somewhat bewildered, but with an intense determination and impressive seriousness, if not on a mission of simple service maybe of loving service. He now states unequivocally and without any duress, here and now, that he was in that state of mind that marked Barkus, he was altogether willing, anxiously awaiting and hopefully expectant. But, and this must be related too, my relator lacked one thing, Barkus' success.

"As we get older," said General Jan Smuts, "life more and more comes to consist of memories and the Great Hope."

* * * *

Disappointment

The best-laid schemes o' mice and men,
Gang aft a-gley,
And leaves us nought but grief and pain,
For promised joy.

— Burns.

* * * *

Be some other name.

Of all the girls that e'er was seen,
Thre's none so fine as Nelly.

—Swift.

Rt. 4, Memphis,
Nov. 16, 1939.

L. L. Minor,
County Editor.

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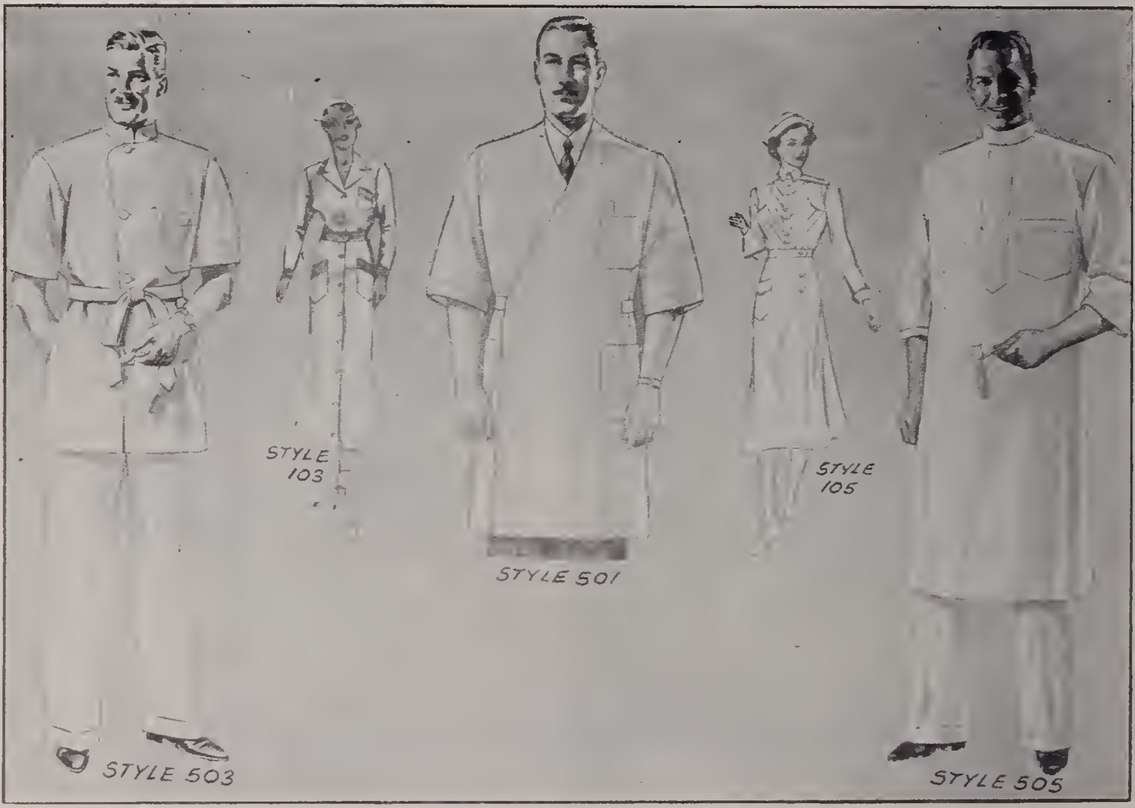
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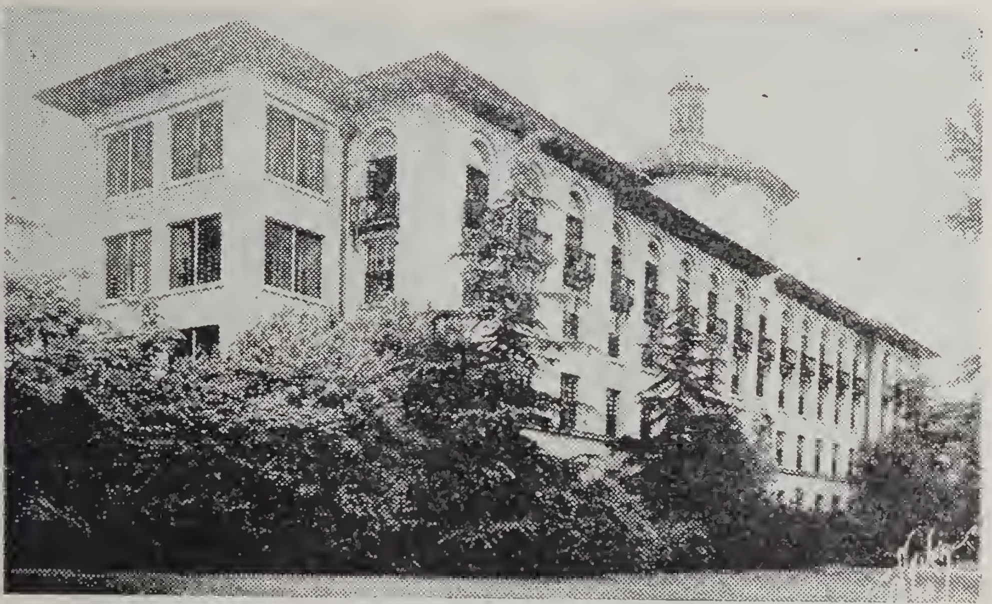

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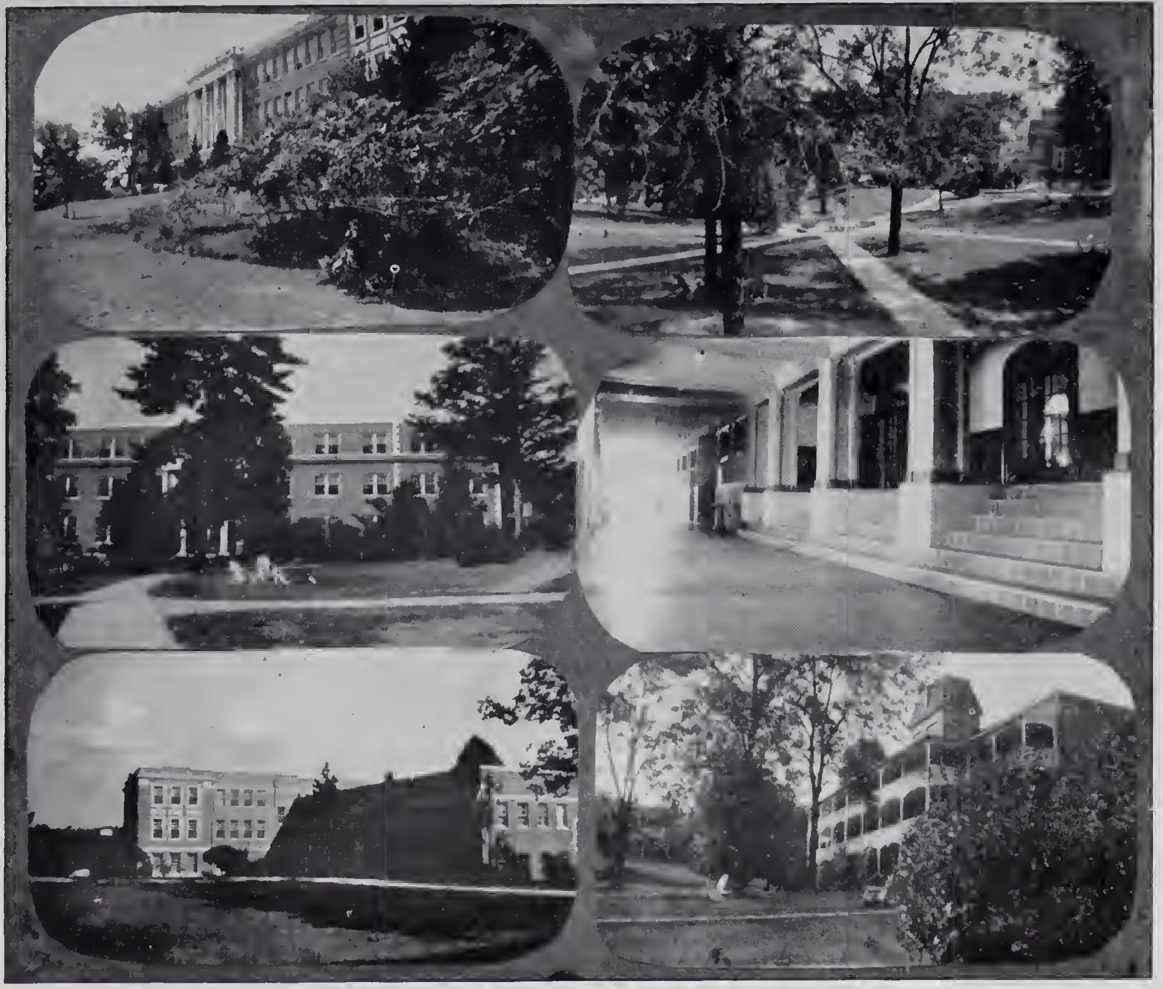

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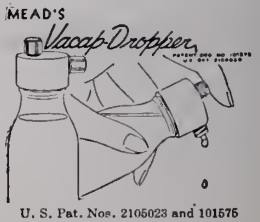

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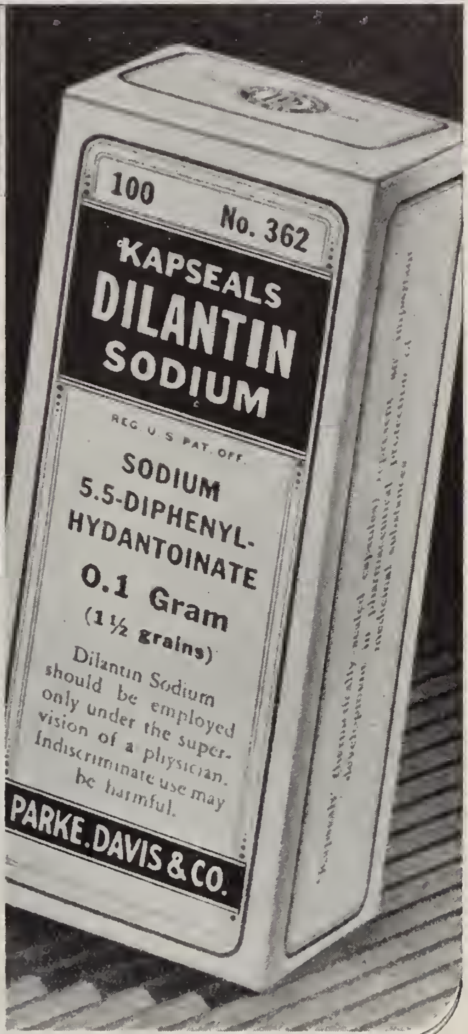
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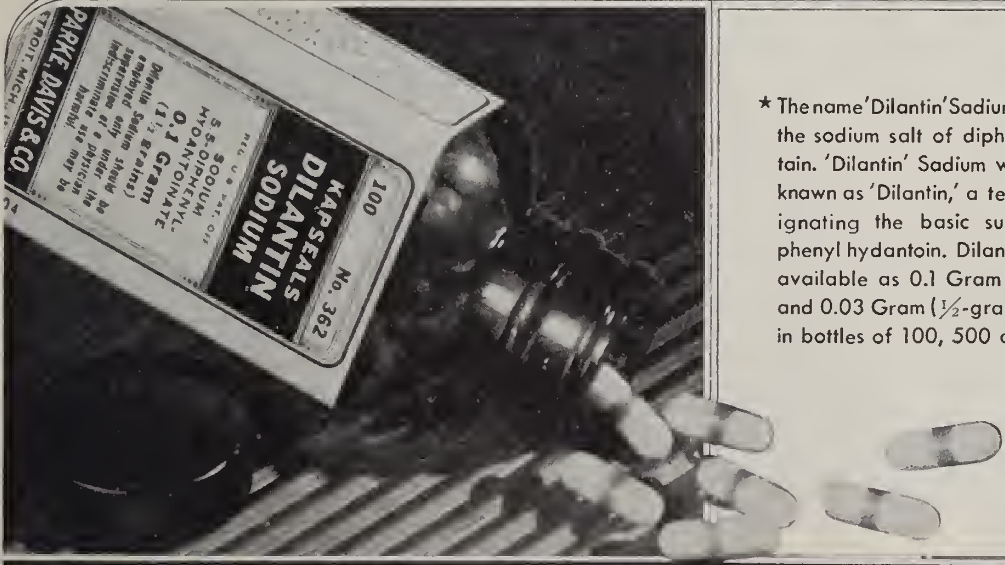
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Frequency and Significance of Familiar Functional Diagnoses*

RALPH A. KINSELLA
St. Louis, Mo.

The patient about whom I shall talk is already familiar to you—a very definite patient for whom I believe we have formulated a diagnostic approach that is concrete, extremely practical and useful.

In conducting record meetings in Saint Mary's Hospital each week for the last twelve or fifteen years, it became apparent that the same type of person was entering the hospital and getting a diagnosis that depended upon the particular symptoms that that patient emphasized, and the attitude which the private physician took with regard to the emphasized symptoms. It became quite apparent that under a variety of diagnoses the same patient was coming back. We then attempted to put a label on this patient for the purpose of statistical study, and after a time—the last three years, to be exact—we tried to see to it that certain investigations were carried out on each one of these patients.

Now, in the private hospital you can readily appreciate the limitations of such a study, so it is not surprising that when we came a few months ago to collect around 900 records for analysis we could finally accept about 185 of these records as having adequate study on which to base a definite statement.

This type of patient, I think, is not well-treated. Forty-four per cent of the series of patients had their appendices for chronic abdominal pain removed and continued to be patients. I think that that fact alone is extremely striking, and makes us realize that a patient is going through our hands without proper recognition and without proper treatment.

We did not investigate this patient in the records of the surgical department or the gynecological department, or the genito-urinary department.

A tremendous amount of inefficiency, jobs undone, and unhappiness are connected with the misinterpretation of symptoms, both by the patient and the doctor.

Now I think, with a few lantern slides I can reveal this problem clearly and present to you the features of the patient, both as to symptoms and as to physical characteristics.

The first slide shows the frequency with which common "functional" diagnoses appear in the records. In the fourteen years covered by this survey, there were 913 such diagnoses, the commonest being the visceroptoses (244), neurasthenia (288), hypothyroidism (97), and gastric neuroses (87).

The most interesting observation at this point was that no matter what the diagnosis was, the symptoms of the patient were just about the same as shown in the next slide. Here we see that in 184 selected records, weakness and fatigue occur as chief complaints in 181 instances; nervousness in 125; loss of appetite and nausea in 101, and headache in 97.

During the past three years we made an attempt to identify this patient by certain tests and the use of the diagnosis "hypoadrenia" resulted from a discussion of the data, and also because the expression offered a simple label for such a patient.

Thus (next slide) we come to recognize an individual of asthenic to hypoasthenic habitus (visceroptosis) with low blood pressure and low basal metabolic rate (hypothyroidism); hyporeactive to exercise and cold-presser tests; with very flat sugar tolerance curves; complaining of weakness and nervousness (neurasthenia) and because of nausea and abdominal pain having an appendectomy in 45 per cent of the cases.

The expression "hypoadrenia" may not be entirely correct, because the generally depressive state may originate elsewhere in the body. The term is useful because it is not untruthful and helps to visualize the patient.

The treatment of these patients, judging from the frequency of readmission to the hospital, has not been very successful. Certainly the surgical procedures, including the too-frequent cystoscopies, have been often hurtful.

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*Read before the fifty-fourth annual session of the Mid-South Postgraduate Medical Assembly, February 14-17, 1939, Memphis, Tennessee.

The age incidence (next slide) shows that these individuals consult physicians during the early decades only. This suggests a behavior-change to environmental burdens. Age brings adjustment. These patients are not to be confused with the individual who has so-called "anxiety-hysteria."

Thyroid extract is often successful in the early treatment, but usually disappoints after a period of a month or two. Adrenal cortex is seldom successful. Abdominal supports and tonics are of some value, but the best treatment consists in presenting the entire picture fairly to the patient; showing him the incidence, the uniformity of symptomatology and physical signs. The mental capacity of these patients, as reflected in their occupations (next slide) is above the average. Most of them respond in a highly satisfactory way to the effects of conferences. This is an uniformly successful treatment.

I hope I have helped to identify the patient with hypoadrenia. I hope I have helped to stop the surgical approach to this problem, and to place treatment on a more reasonable basis.

3720 Washington Blvd.

What Mississippi Is Doing About the Cure of Tuberculosis with Surgery*

HENRY BOSWELL, M.D.
Mississippi State Sanatorium
SANATORIUM, MISS.

SINCE THE BEGINNING of the successful treatment of tuberculosis the foundation principle of it has been that of rest. For many centuries the rest could only be secured by placing the patient on bed in an effort to reduce the number of excursions of the lung per minute. Physiologically, the lung of a male makes eighteen complete excursions per minute, and that of the female twenty. With inflammatory area in any of the structures it is obvious that these excursions will greatly retard the healing process necessary to the cure, whereas the limiting or prevention of an excursion, as in that of a broken bone, will greatly enhance the rapidity of the healing process. And, too, in normal pathology of a lung following an attack of tuberculosis we have one of two types of lesions to deal with. First, it may be that of a pneumonic type, acutely inflamed and requiring rest for a cure. Second, it may be the cavitation of a lung which, as is well known, is purely an abscess pocket usually draining into the bronchus and like all pockets of such character in any part of the body, if cured, must be closed or drained. In other sections of the body the abscess pockets may be opened, curetted, and closed by packing, encouraging granulation to fill them in. In a lung, this is physiologically and histologically impossible. Consequently, the rest and closing of this cavitation must be gone about in another manner.

More than a quarter of a century ago surgery was suggested as a sensible, sane procedure to control the rest in either or both of the lungs. In the early days few men attempted it in either method, recognizing the fact that it was dangerous and was a special line of surgery that required years and years of training for a man to become competent and efficient in securing results in the lung comparable to surgery in other parts of the body. The minor types of surgery advanced very rapidly, such as pneumothorax, which is the one sensible procedure that has proved its worth and efficiency in handling the early types of tuberculosis, securing the rest necessary to promote rapid and efficient cures. But major surgery has only come in in the past few years, and as yet there are comparatively few capably trained chest surgeons who can perform operations of the kind necessary to secure efficient and permanent arrest in the process of the disease dealt with.

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*Read before the Section on Medicine at the seventy-second annual session of the Mississippi State Medical Association, May 10, 1939, Gulfport, Miss.

This paper is designed to give the medical profession a resumé of what your own state institution has done to modernize itself in such a way as to give the people of Mississippi the advantage of the progress surgery has made in the treatment of tuberculosis. About three years ago we were enabled to secure the services of a trained man, after which we instituted a surgical program favorably comparable with any institution of its kind in the world.

Prior to this we had used pneumothorax, and occasionally phrenic operations, but not to the extent where we were securing the maximum results from either of these procedures. With the development of major chest surgery has come a marked improvement in the technique of the simpler operations, such as pneumothorax and phrenic operations, and with this the ability based on experience of men capable of determining what type of case should be committed to the surgeon for the various types of operative procedure.

In our own institution from July 1, 1936, to January 1, 1939, we have given 206 successful initial pneumothoraces followed by 12,612 refills with the results as shown by the following table:

206 initial pneumothoraces
39 bilateral pneumothoraces
68 one or more pneumolyses

Far Advanced

169 —all with positive sputum
65 clinically improved—still under treatment at Sanatorium
32 discharged as quiescent or apparently arrested and receiving refills by private physicians or returning to Sanatorium outpatient department for refills.
6 re-expanded—discharged as quiescent
2 re-expanded—discharged as apparently arrested
8 discharged as quiescent for refills by private physicians. No follow up
12 unimproved
25 expired
38 received bilateral pneumothorax
16 ineffective collapse and other surgical collapse
25 preliminary to thoracoplasty, 19 of which discharged as quiescent or apparently arrested; 6 still on treatment
2 thoracoplasty on opposite sides from pneumothorax
10 re-expanded and treated by rest alone.

Moderately Advanced

35
8 positive sputum
1 received bilateral pneumothorax
15 clinically improved, but still on treatment at Sanatorium
9 discharged as quiescent or apparently arrested, refills by private physician—no follow up
6 re-expanded and discharged as quiescent
2 re-expanded and discharged as apparently arrested
1 pneumothorax preliminary to thoracoplasty. Discharged apparently arrested
1 re-expanded because of obliterative pleuritis
2 expired—progressive disease.

Minimal

2 discharged quiescent, receiving refills by private physician.

Many of these cases receiving pneumothorax have been discharged to their physicians back at home so that they could return to reasonably normal work and continue their refills to such a point as necessary to secure a complete arrest of the diseased process. In the average case of pneumothorax it is necessary to keep the lung collapsed over a period of from three to five years. In the meantime, the patient, after the first few months, is capable of returning to a reasonably normal life, enjoying his home and his family and the ability to do the necessary work to support them. This type of treatment is the preference of all surgery and should be used in the early cases of tuberculosis with maximum results of rapid cures. However, as will be seen from the table given above, the majority of our pneumothorax cases have been in the moderately advanced or advanced stages of the disease and many of them come to the major types of surgery. This, it is hoped, will be corrected when and if the medical profession and people of this state will insist that their legislature provide sufficient funds for adequate care of the tuberculous individuals. Then the early cases can be put in the institution, their lungs collapsed and returned to properly trained men in their communities for their refills, able to take their place as citizens of the community.

The reason for having them sent to the institution primarily for the initial collapse is that many of them have adhesions that must be cut before the lung can be collapsed efficiently. The private physician not being prepared, and the local hospitals not equipped for this type of surgery it is consequently necessary for the state institution to take care of this step of collapse. When efficient collapse is established it is no longer necessary to hospitalize the case provided convenient refills are accessible to him back at home.

The phrenic operation, another one of the minor operations in the cure, is selected for certain types of individuals whose pathology suggests that a partial rest of the lung by paralysis of the diaphragm on the affected side will be sufficient to insure recovery, and is illustrated in the following table of the number of cases we have handled and completed in this type of surgery:

Total No. phrenic operations: 114 (since 1936)	
Last 3 months in 1936	77
1937	18
1938	16
Of the 114 patients—	
No other type of collapse	70
Operations following pneumo	26
Previous to thoracoplasty	18
Of the 70 who had no other operations—	
Operations as part of treatment	50
Operations short time before discharge	20
Report of patients who had only the phrenic operations—	
Discharged as improved	27
Discharged as quiescent	26
Discharged as apparently arrested	9
Discharged as arrested	2
Discharged as unimproved	3
Expired	3

Re-examination showed the following:

26 of the improved and quiescent now arrested
6 an extension of disease
6 no change
3 have died
No report on 27 patients.

You will note from the table that in the beginning of our surgical program we did many of them. This is explained by the fact that many of the cases had been on hospital treatment for some time and the operation was given them before discharge to secure a better rest of the lung for the added strain of returning to their homes. Many of them were done previous to extensive surgical operations to close the existing cavities. But in the latter cases the definite pathology indicated for this type of surgery is of the small fibrotic lesion involving a small area of the lung with little or no symptoms. These, in our experience, respond beautifully to the phrenic crush which paralyzes the diaphragm from three to six months in each individual, thus giving him time in the limitation of the excursion of the affected lung to secure an arrest of the inflammatory process.

The advanced cases of tuberculosis with cavitation and lung destruction require a more drastic type of surgery, and in this comes our major surgery program. It is a well known fact by all sanatoria of this country that patients with cavitation may be taken into the institution and built up until they are perfect pictures of health, but with the cavity remaining open on discharge within three to five years 90% of them die. This is due to the extension of the disease from pouring into the good lung secretions loaded with bacilli from the cavity, and in the meantime these patients are a menace to their family and their communities as they have constantly positive sputum.

In a major surgical program we do the operation of thoracoplasty. This is done in one, two, three, or four stages according to the amount of collapse necessary to close the existing cavities, and in approximately two years we have done 231 operations with results shown by the following table:

THORACOPLASTY

89 patients
231 operations
10 first stages only
25 two stages
37 three stages
13 four stages
4 not completed

THORACOPLASTY RESULTS

60% discharged—arrested
13% arrested—in hospital
7% in progress of operation
6% have contralateral disease
3% late contralateral disease
11% dead.

THORACOPLASTY COMPLICATIONS

1. Spread of Disease 11

Anesthesia: cyc 5—40 1st stages
eth. 4—45 1st stages
loc. 1— 1 1st stage

2. Wound infections 2:- 1 TB, 1 strept, 1 death
3. Post-op. psychoses 2:- 1 death
4. Late contralateral activity 3.

THORACOPLASTY DEATHS

1. Paradoxical respiration 1
2. Pulmonary embolus 1
3. Wound infection 1
4. Post-operative psychosis (previous th.) 1
5. Heart disease: 1 two weeks after 3rd stage
   1 one month after 2nd stage
6. Spread of tuberculosis:
   2 old disease—spreading before operation
   1 acute cavitating disease
   1 young adult post-operative spread

Operative mortality ....4.4% per pt.
1.6% per op.

As you will note in this series of operations the results have been very gratifying, many of these patients are now back at work doing a normal work, and enjoying normal life; whereas, if they had been left alone the majority of them would either be dead or would die within the next year or two.

The operation itself in the hands of a trained chest surgeon is comparatively simple and attended with comparatively little risk, and as you will note from this table the mortality in our operation work has been largely that in the last resort cases.

Many of these patients operated on originally were dying, and their families were called in and such condition of the patient explained carefully and they were given the preference of us attempting surgery or leaving the patient alone to die. I am glad to report that in these terminal cases we had 50% recoveries which to me is more than gratifying for the reason that we would have had 100% deaths if they were left alone.

In addition to putting them back on their feet, able to return to a reasonably normal life, this type of surgery carries with it an advantage from the public health standpoint that cannot be secured in any other way in that it closes cavities, rendering the patient's sputum negative and preventing him from being a constant source of danger to his family and his community. It is also a relief to the individual mentally, for no torture under heaven could be greater than that of the constant fear of any individual of infecting some loved one with a disease organism that has cost him so much.

Recently we have done a few operations that are more or less now of what is known as an extra-pleural collapse, or extra-pleural pneumothorax. So far we have had beautiful results from this. In this we open the chest, dissect down to the parietal pleura and fill the pocket with air, thus having a selective collapse which can be controlled and limited to the diseased area itself. This operation theoretically has to be followed by a permanent collapse later on in the form of thoracoplasty.

The cases so far operated on have given us every encouragement that this procedure will save many types of cases that heretofore we have lost. And it certainly gives us the advantage that we so badly need in thoracoplasty of having a patient improving when the major operation is done. In the toxic stage of a lung lesion the patient is in no shape, and is a bad risk, for thoracoplasty; but by doing an extra-pleural and by controlling his disease process, as is shown in the following series of cases, the major operation is attempted with practically no danger and can be done at such time as we decide the patient is at his maximum in physical resistance:

RESULTS OF EXTRA-PLEURAL PNEUMOTHORAX

34 operations
26 clinically improved
1 unimproved
1 recently operated
6 dead
6 patients having thoracoplasties
17 refills
5 refills discontinued

COMPLICATIONS OF EXTRA-PLEURAL PNEUMOTHORAX

3 empyema of extra-pleural space
1 TBC—2 mixed
1 hemorrhage—post-operative
2 spontaneous pneumothorax below extra-pleural space
2 bronchial fistulae

ANALYSIS OF DEATHS

2 died of complication of operation itself
1 hemorrhage from TBC, 6 months post-operative
1 staph. wound infection and septacemia at subsequent thorac.
2 progressive diseases, contralateral.

I do not think it would be amiss for me

to include in this paper the fact that when this surgical unit was established we realized that there were no trained chest surgeons available to the medical profession of this state for their poorer class of patients, or even people of moderate means; consequently, the surgical unit was opened to the medical profession for any type of chest surgery that could not be secured by the patient otherwise. As a result we have done the operations as shown by the following table with most gratifying results and for people most of whom could not possibly have otherwise secured the necessary treatment:

- Bronchiectases
    - 3 lobectomies
- 9 lung abscesses
    - 6 drained—1 death
    - 2 lobectomies—1 death
    - 1 empyema
- 8 empyemas
    - 5 chronic
    - 2 pneumococcus
    - 1 streptococcus
- 1 carcinoma—lobectomy.

In giving you this outline this paper would not be complete without stating to you the tremendous shortening of the treatment of tuberculosis by modernization of treatment, and at the present time operating at 60% bed capacity of the institution we are handling 42% more cases than when operating under the old methods at full capacity. And if your institution had funds sufficient to operate at full capacity I feel that the program of treatment of tuberculosis in this state would be reasonably efficient and adequate for the white population. Our negro race, it is true, is receiving inadequate care at the present time, but it is sincerely hoped that this will be improved in the near future.

It has been my pleasure to work with tuberculosis for approximately thirty years. During that time I have seen all of the developments of modern day treatment. I have seen treatments come and go, promising one day happy results and the next day showing disaster. But it is my opinion unquestionably that surgery as it is used today in your institution offers greater health, greater joy and possibilities than anything ever dreamed of in the old days of treatment. And it certainly, beyond any question, has shortened the treatment of this prolonged disease. Where a few years ago it was necessary to tell a patient that it was an indefinite process, today we are able reasonably to assure him that within a comparatively short time we will be able to return him to a reasonably normal life. While the period of observation of major surgery in our own case is too short to say definitely what the end results will be, yet I have almost reached the point of saying in the language that Edouard Rist, of Paris, said of pneumothorax a few years ago that "pneumothorax was the only remedy given to us in the past several centuries that had stood the test of time and experience other than that of routine sanatorium care."

Now we may add "thoracoplasty" and we hope in a few more years other surgical procedures will be equally effective.

DISCUSSION

Dr. John Harter (Sanatorium): I would like to call attention again to the fact that at the present time, with the institution running at 60% capacity we are taking care of 40% more patients. This program has only just begun in attempting to eradicate tuberculosis in Mississippi. Eradication is no slight term, and with the Sanatorium running at 100% we could probably take care of 150% more patients than we could take care of a few years ago. There are three ways you doctors can help us to do this: first, the establishment of pneumothorax in your communities so that when we get a patient we can give him pneumothorax and send him back to you in a few weeks, and you can continue to give him the pneumothorax refills in your own communities. Another thing, we can open the Sanatorium to full capacity with about $40,000 more a year, which is a small amount considering the cost per day. If we can open the Sanatorium to about 500 beds, and take care of about 150% more patients than we used to do, we are taking care of two to three thousand patients per year. We have only 2,000 white patients in the state and about 8,000 negroes. With that amount of incapacity we could soon catch up with tuberculosis in Mississippi and take care of our minimum cases. The minimum cases can be treated in the central hospital for a few months' time and then sent back to the physician for pneumothorax in their own county and the cost per patient would be greatly decreased by taking care of minimum patients—not the far advanced patient who has to stay several months before he is ready for surgery, which is then more expensive and finally turned out with the permanent loss of a part of his lung. He can frequently return and do his work, if he is not a laborer, but to say that a person who has had major surgery and has lost part of his lung — and we are not taking more away that is taken by the disease—I think to say that he can return feeling as good as he did before he got in his advanced stage of the disease is rather questionable. Certainly they can return to work which they could not do without surgery. Probably about 90% we do surgery on would be dead in 5 years if they did not have surgery, so if you are able to diagnose tuberculosis in its early stages, and we can get it into the Sanatorium before it has advanced we can turn out many more arrested cases. Not only that but the spread of it will be arrested, and I think we will go far ahead of our tubercular program.

I would like to say too that the diagnosis is easy if you use the modern methods of diagnosis. Many patients that we see at the present time are diagnosed influenza and pneumonia which do not get well after a few months' time, and they are x-rayed and are found to have large cavities.

If you will x-ray many of your patients who have flu or some hacking cough you will, of course, find many inactive x-rays, but on the other hand you may find a few of early tuberculosis which can be treated in the early stages and sent to the Sanatorium and cured without major surgery.

Dr. H. R. Shands (Jackson): I make no effort to deal with the technical details of this paper. I do crave the privilege of making certain suggestions to you whom I consider to be the leaders of your respective communities in the State of Mississippi.

The experience that I have had with medical legislation in Mississippi for the past 35 years has been that unless a plan is thoroughly worked up before the men go to the legislature, it is very seldom possible to lobby it through the legislature after they get there.

Dr. Boswell has given you a rapid summary of this subject. If you thoroughly understand that subject from the paper you have an encyclopedia mind. You can take in everything he said on account of the fact that he has it concentrated. The suggestion I have to make is as follows: For the April meeting of the Central Medical Society we invited Dr. Boswell, Dr. Harter and their associates to come and present to us a statement and a summary of the work that had been done in the past three years in the treatment of tuberculosis at the Sanatorium. I can say to you that we are in the habit of having very fine programs. We have had Vanderbilt University, Tulane University and men from Mayo's Clinic, but I believe that everybody agreed that one of the most interesting programs that we ever had — one of the most scientific demonstrations—was given by the staff of the State Sanatorium. Following that we wrote the secretary of each society in the State of Mississippi telling him of the very fine program that the staff of the State Sanatorium were now prepared to put on for them. I understand they have had several invitations. I as a private citizen and a physician of Mississippi want to appeal to you as a leader to go home and take the matter up with the secretary of your society. I think it can be clearly said we are now fighting a winning fight. All we have to do is to get up a little more steam and I believe we can be very proud of our results. I was glad to hear Governor White ask you on yesterday if you wanted better hospitals in Mississippi to go to work on it now, and I think we could combine both works and have much more money for the indigent sick or those with tuberculosis. I thank you.

Dr. W. H. Frizell, (Brookhaven): The House of Delegates yesterday, in the most excellent set of resolutions that Dr. Wall introduced, passed unanimously to get some approach to the legislature whereby we could get appropriations for our hospitals in Mississippi. Now, mind you, some of our friends thought he meant only a central institution, which all of us would agree that Jackson would be the logical and geographical place for its location, but he meant all the institutions of Mississippi, and to get sufficient funds to do this. Among them of course would come the tuberculosis hospital at Sanatorium. Our good friend, Henry Boswell, who knows more about tuberculosis than all of us put together has had a change of heart. He, himself, has been convinced and when you get a hard-hearted, clever, level-headed thinking man like Boswell to be a convert to something of that kind, there is something to it. The people of Mississippi have confidence in Boswell, even including the Legislature. Now then with what Gov. White put before us yesterday and as stated by Shands, if we still go up there, get up our information, tabulate it, put it in the hands of a bunch of men like our Legislative Committee, with possibly an advisory committee, men from each of the Congressional districts, we will accomplish something. We have to go at this thing systematically. What do we want? We want results, and the way to get them is to carry before the Legislature what we want.

Dr. F. M. Smith, (Vicksburg): Mr. Chairman: Allow me just a few minutes. As necessary as an appropriation may be, I want to call your attention to one of the important things Dr. Boswell brought out, a reduction in the particular thing that has existed always in treating tuberculosis, and that is rest. They are cutting everything short. Yesterday for the first time we are given authentic statistics showing that the mortality from pneumonia was being reduced. Through the years it has remained very much the same. He comes to us now and tells us that the time of rest for tuberculosis may be reduced.

The thing that I want to reiterate again is this early diagnosis, this treatment that is being given pneumothorax in the diagnostic clinic that we hold annually in the City of Vicksburg in co-operation with the Sanatorium, we examine some 80 or 90 patients there a year, and though the people are realizing the importance of this examination being done early and thoroughly, since the examination by Dr. Boswell in March we have had seven deaths of those who came up for examination, so I insist again on our duty in stressing the early diagnosis so that this period of rest may be reduced through the process of pneumothorax.

Dr. J. Gould Gardner, (Columbia): I have been talking to Dr. Boswell for a number of years before he was able to open his surgery for the chest cases. He did not tell you what a hard time he had in getting this down there with the limited appropriation he had, and now that we have the ball started we are taking care of the indigent patients in Mississippi fairly well, especially the whites, but while we are in line to get our appropriation there is one thing that has not been stressed, and that is why I am on my feet, and that is something for the incurable tubercular patients, who are staying at home; maybe mothers with 5 or 6 children. I have one of those patients, hopelessly incurable. There is no place to put them and in some of the northern cities, especially one I have in mind in Boston, they have a tubercular home that they brag 100% mortality. They are careful in selecting their patients; they know they are incurable, but they are infectious, and Mississippi could do a lot in an economical way by having a home or hospital where these patients may be taken and provided for, and keeping them from infecting the others they usually contact.

I merely got up to mention that; that while we are asking for our appropriation, let's try to get some place to put these poor people, these incurables who have no care at home and are infecting others. Let's do something for them.

Dr. Boswell (closing): I appreciate sincerely the suggestions made in reference to securing appropriations. I heard someone get on the floor yesterday and blame the legislators for a lack of faith. I want to tell you they are not to blame in not making appropriations. They are elected by the people to represent them in Jackson, and after three years of lobbying with your Mississippi legislature, I am convinced that as nearly as possible they reflect the sentiment of their people back at home. The reason that hospitals today are neglected is because no one ever thinks of the sick except the doctors when we are looking in their faces. We are too interested in lobbying for good roads and better schools and better colleges. I lobby for both of them myself, and there should not be so much blame on the Legislature because it is the people back at home who have to do the lobbying.

For many years the construction of a building for the advanced cases of tuberculosis has been in our budget presented to the Legislature at each session and has been repeatedly refused. We have been trying to get that because we have to go out in some communities and provide for somebody who is a menace to his community, and I want to make this one announcement to you doctors. I know you doctors love me when I take a patient for you and you cuss me when you cannot get a patient in. But back of the cussing is the same thing I said about Dan Williams when I presented him with the cup last night, back of that cussing there was a love, so I know you love me, and bear with me personally in my work. If you fellows will remember that we are operating 250 beds in that institution and I have over 1400 doctors to please in the state, and it takes several months to get a patient in and out of there, you would appreciate that I am doing my utmost to give you a good job.

One thing I want to announce and then I am through. First I want to tell you that before I left home for the first time since the depression we have had an over supply of men patients—the young men just out of school. We have enough there to organize a pretty good sized medical college. During the last few years we have had a number of men on the waiting list, but the number of men has begun to drop off in the last few months, and in checking my list, I found I could take some men patients within two or three weeks after you make your application. The women folks within the last 6 or 8 months have begun to climb up and I have a rather long waiting list.

I am opening a new building. We have remodeled the old building, made that efficient for handling modern treatment, and we are opening, beginning yesterday, one of the new buildings to give room to take a great many more, and I feel that I can announce to you now that if you will send in applications we will get them reasonably quick and we will do our best to send them back to you well.

Dysphonia and Aphonia*

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WE SOMETIMES see the words dysphonia and aphonia used practically interchangeably, however, dysphonia is defined by lexicographers as "any impairment of voice: a difficulty in speaking," whereas aphonia is defined as a "loss of voice not due to a central lesion." For example, dysphonia puberum is the rough or harsh voice of puberty or early adolescent life; dysphonia spastica is a spasm of the muscles of phonation seen in those who speak much before the public, such as ministers, lecturers, and the rough, grating voice of the side-show barker or newsboy. Many of these dysphonias may be accompanied by a more or less chronic sore throat.

In aphonia hysterica we have loss, or an impediment, of speech due to a wilful desire to remain silent or to feign some imperfection of phonation. In aphonia spastica, very much as in dysphonia spastica, we see an aphonic condition brought on by spasm of the adductor muscles, the crico-arytenoideus lateralis and the thyro-artenoideus externus. Aphonia paranoica, as the name implies, is the stubborn, wilful silence encountered in the mentally unbalanced, while aphonia paralytica is a state brought about by disease or paralysis of the laryngeal nerve, which might involve any group or all of the intrinsic laryngeal muscles.

Strictly speaking dysphonia and aphonia are not necessarily spoken of as hoarseness though the words may be used as such. Dorland[1] states, "hoarseness is a rough quality of voice," but the word really implies any change from the normal in the low range scale.

In any dysphonic or aphonic condition we naturally think of the muscles of phonation because of their function which is to aid in producing sound by their action on the vocal cords and other structures of the larynx. The function of the larynx is to produce sound and to convey air to the trachea, and ultimately to the bronchi and lungs.

For the sake of convenience these laryngeal muscles are divided into intrinsic and extrinsic groups. The intrinsic muscles of the larynx might well be called the true muscles of phonation since they control the action of the plica vocales, or the true vocal cords. These muscles are the crico-thyroid, being motivated by the vagus nerve through the laryngeal branches. The crico-thyroid is supplied by the motor branch of the external or superior nerve of the larynx, the others by the inferior or recurrent laryngeal nerve.

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Extrinsic muscles are the stylopharyngeus, the palatopharyngeus, inferior constrictor muscle of the larynx, the thyrohyoid and the sternohyoid. These muscles all move or act on the larynx as a whole and might be considered as assistants to the intrinsic muscles by fixing or immobilizing the cartilages of the larynx, thus enabling the intrinsic muscles to act more effectively.

Normally the voice sounds are made by expiratory gusts of air striking the vocal cords, thus causing them to vibrate or open and approximate dozens of times per minute, possibly as many as a thousand times a minute. Disease or any condition interfering with their normal vibration or approximation renders them sluggish in action and consequently causes dysphonia, or hoarseness if you choose.

Pressman[2] showed by motion pictures that the movements of the vocal cords to produce sound took place almost entirely in the anterior two-thirds of the cords, also the smaller the orifice through which the air was forced the higher the sound note or pitch. So any state of the cords preventing them approximating closely would as a result produce only lowered tones, a condition of dysphonia or aphonia.

Since dysphonia and aphonia are not disease entities in themselves but only symptoms of disease or abnormality they may well be the forerunners of a more serious result to follow. All cases of dysphonia and aphonia are not of a serious nature but the fact should not be ignored that they may be serious and are so accepted until a definite diagnosis is made. Some benign growth such as papilloma may be encountered, or a polyp, or singers nodes, but don't overlook the possibility of malignancy, tuberculosis or syphilis. Even a foreign body in the larynx may be met, and a gunshot wound of long standing may even cause pressure enough to cause paralysis.

Dysphonia and aphonia may be associated with any acute or chronic infection of the upper air passages. In this connection I might mention here that it has been established that air-conditioning prevents many of the respiratory infections such as coryza and influenza. Who knows that we won't some day have air-conditioned cities as well as air-conditioned buildings? It is certainly in the realms of possibility.

We are all familiar with the effect diphtheria may have on the laryngeal nerves. Cases have been reported where certain fevers, notably undulant fever, have affected the larynx, causing a stenosis and a possible dysphonia. One writer has mentioned a paralysis of the larynx following the injection of tetanus antitoxin. These are certainly unusual cases but they can happen in your practice as well as mine. Exhaustion of the muscles of phonation through overuse may cause a huskiness of the voice. The regular smoking of cigarettes to excess may well, in certain people, produce enough irritation to hoarsen the voice. It has been claimed by certain cigarette manufacturers that their cigarettes moistened with diethylene glycol were not as irritating as those manufactured with glycerin, but Ballenger[3] in his conclusions, states that "careful objective examination failed to show any significant difference in irritation of the mucosa of the nose or throat by cigarettes moistened with glycerin, those moistened with diethylene glycol or those with no hygroscopic agent."

Infrequently we see an acute involvement of larynx, trachea and bronchi, or laryngotracheobronchitis. This is usually accompanied by subglottic edema and may be a very serious matter indeed, necessitating tracheotomy; even then the mortality is extremely high from twenty-five to seventy-five per cent. Jackson once unequivocally stated seventy-five per cent; however, this depends on the promptness and efficiency with which treatment is started and the mode of treatment. The earlier the child is seen the more favorable the chance of cure, also the older the child the better are its chances. The stringy, tenaceous mucous and crusts are removed by suction or any other method that seems to meet the needs of the occasion, and at frequent intervals. Moist air, plenty of fluids, and possibly sulfanilamide or kindred drugs, as the exciting cause is frequently streptococcal in origin, are essential to best treatment. Elevation of the foot of the bed to promote drainage by gravity has been advocated but I cannot see how a fifteen degree of elevation of the bed can be of much help where such stringy, tenaceous material is concerned.

Other lesions causing dysphonia are certain organic diseases affecting the nerve centers of the medulla or affecting the fibers from these centers to the laryngeal muscles. A lesion in the medulla itself will as a rule cause a bilateral paralysis; while those in the nerve fibers cause paralysis on the same side. Tabes dorsalis or any other central lesion may bring on an abductor paralysis, this being the first sign that anything is wrong. Myasthenia gravis or any destructive or degenerative lesion may cause dysphonia. A traumatic or structural lesion, hemorrhage, gummata may cause it. Enlargement such as dilatation of the cardiac left auricle may press on the laryngeal nerve and induce paralysis. Anything causing a laryngeal nerve neuritis, such as influenza or la grippe, may conceivably be the incentive behind a paralysis and dysphonia.

Of the benign new growths invading the larynx probably papilloma is the most frequently encountered, especially in children, though it may be seen at any age. Rosti[4] of Milan, states that in more than fifty per cent of cases the sight of choice of papillomata is on the vocal cords. Because of their frequency of recurrence after surgical removal papillomata constitute a real problem, though Rosti cites five cases where roentgen irradiations cured when surgery had repeatedly failed. Next in order of frequency of occurrence is fibromata. Vocal nodules though they appear on the vocal cords in the same locality as carcinoma, namely the anterior segment or anterior one-third, can be differentiated by their occurrence in pairs, one on each cord directly opposite each other. They do not infiltrate the cord or grow to great size but cause dysphonia by mechanical action.

Of all the numerous conditions involving the larynx and causing dysphonia or aphonia, and Jackson once cited fifty or more, perhaps the most serious are the triad—cancer, tuberculosis and syphilis—though laryngotracheobronchitis must not be overlooked as a cause of high mortality among children. Tuberculosis once thought to be fatal in the majority of instances is now known to be curable in many cases. Cod liver oil sprays to the larynx, proper food and rest, with the right atmospheric conditions free from dust, exhaust fumes and irritants, will work wonders in these cases. Probably the greatest single help locally, however, is electro-cautery puncture of the turgid mucosa. This will have to be done a number of times at three- or four-week intervals, and needless to say is done under local anesthesia. Inasmuch as it is now generally conceded that pulmonary tuberculosis is always present before laryngeal involvement, surgical collapse of the invaded lung where indicated would naturally tend to improve the laryngeal disease by lessening the amount of cough, sputum and consequently the number of bacteria.

Frank and Wolf[5] state that the largest percentage of laryngeal tuberculosis occurs in the third decade, is rare in children and also in those over forty-five. Tuberculosis has a preference for the posterior portion of the larynx in contradistinction to cancer which has a decided predilection for the anterior one-third of the cords. Frank and Wolf also state that infiltration, swelling, and thickening of the submucosa, with edema in the subepithelial tissue together with a wrinkled and mammillated appearance of the tissue in this region is a definite diagnostic indication of laryngeal tuberculosis.

Syphilis of the larynx is relatively easier to diagnose because of its occurrence in the secondary or tertiary stage and the fact that blood and spinal fluid examination will in most instances put us on the right track. However, even then there are puzzling cases which for various reasons are not true to form. Treatment of laryngeal syphilis is essentially that of syphilis of other parts of the body and is too well known to enumerate the basic steps here. Suffice that it is well to bear in mind that this disease may simulate almost any disease or pathological condition found in the body. Failure to remember this has resulted in numerous humiliating experiences. Fortunately for most of us approximately one-third of those infected with syphilis throw it off or recover spontaneously, just as members recover from pulmonary tuberculosis and are never aware of having had it until x-rays of the chest show the tell-tale scars left behind.

Carcinoma of the larynx, which might justifiably be called the great laryngeal plague, is not necessarily the fatal disease it once was if diagnosed early and the proper treatment instituted, though there is a woeful number still being diagnosed too late. Bear in mind that intrinsic cancer of the larynx seldom (notice the emphasis) starts elsewhere than on the anterior segment of one vocal cord or near the junction of the anterior and middle third of the cord. Any infiltrative lesion of a vocal cord, especially in the anterior part, at once makes us suspicious of malignancy.

Because the first symptom of intrinsic cancer of the larynx is a slight change in voice sound, or a slight blurring of speech, on hearing this we should at once think of this serious disease.

In a series of one hundred and two cancer cases coming to operation Orton[6] reports ninety-one were men and eleven women. Until recently cancer was supposed to be rare in a person under thirty-eight or forty but we now know that cancer in some instances attacks those much younger. In the series reported here by Orton eleven were under forty, the youngest being twenty-five. Symptoms varied according to the location of involvement. Fifty-nine complained of a tickling feeling strong enough to produce cough and a discomfort strong enough to induce clearing of the throat. Pain was complained of by forty-five, the pain being referred to the larynx, the side of the neck, or to the ear. Eighty-nine were dysphonic.

The vocal cords do not have to be sluggish in movement when infiltrated with cancer, though the first noticeable symptom is a slight change in voice sound. Cancer is there before any dysphonia is noted and it is incumbent on us as laryngologists to make routine examinations of the larynx, especially in those of cancerous age.

Negus[7] has written a great paper on "The Differential Diagnosis of Intrinsic Carcinoma of the Larynx." This is a thorough piece of work and reminds us of many points we might otherwise overlook. Lederer[8], however, has stressed the eight diagnostic points to follow in any suspicious laryngeal case. They are: (1) a complete history of the case; (2) indirect examination with the laryngeal mirror; (3) complete general physical examination; (4) roentgenologic studies of the sinuses, chest and neck; (5) examination of the blood, both serologically and microscopically; (6) repeated examinations of the sputum; (7) direct laryngoscopic, bronchoscopic and esophogoscopic inspection; (8) biopsy.

If we would adhere to these eight points routinely I feel sure we would gain much in making errorless diagnosis in our laryngeal problems.

The treatment of intrinsic carcinoma of the larynx is of two general kinds; surgical and medical, or therapeutic. Under the head of surgery naturally we think of cordectomy through laryngofissure, and complete laryngectomy. The medical side would be headed by radium and roentgen irradiations and possibly diathermy.

Much has been brought out in the literature in recent months about the causes and the cures for dysphonia and aphonia and no doubt you have read most of it.

Our time is limited and I have not burdened you with a number of lesser causes of these conditions. They are perfectly familiar to all of you, hence I have endeavored to bring to your attention only the more frequent and more serious problems in this field. Details of treatment are not in the scope of this paper, so they have been left out intentionally.

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DISCUSSION

DR. D. C. MONTGOMERY (Greenville):

Aphonia—loss of phonic voice, not due to a central lesion.

The whispered voice is never lost so long as any air comes through the larynx.

Dysphonia—pain on speaking.

—Jackson.

The chief duty of the laryngologist in all defects of speech is to determine whether or not the peripheral mechanism is free of defect.

Examination of the larynx must be thorough and complete—embracing direct, with the laryngoscope, and indirect with the mirror.

If by either method the color of the mucosa and cord is normal the cords abduct widely and evenly on inspiration and they approximate evenly along the edges and vibrate when the patient says "E," it may be said that the trouble is not laryngeal.

This examination is not difficult in the adult or even in older children who can and will cooperate, but it often happens that a mother will bring to your office a child of two or even three years with the statement that he cannot talk. Laryngoscopic examination will determine the normalcy of the larynx or some pathology. If nothing abnormal is found do not neglect to examine the ears for deafness and, secondly, to see whether or not the child is atypical or idiotic.

If the larynx is normal, hearing is good and mentality that of the average child—tardy development of speech faculty is the probable answer. Some children do not try to speak until they are nearly two years old. A complete neurologic examination is necessary.

I think we are all conscious of and on the look-out for the serious pathologic condition in the larynx—such as cancer, tuberculosis or syphilis, as well as the many benign tumors of the larynx which Dr. Staton has so clearly brought out in his paper, but let me here mention a few of the unusual ones with which we have to cope and which I have seen in my office.

We are frequently consulted by patients who complain of fading away of the voice and fatigue on talking—myasthenia laryngitis or myositis so common among preachers, singers, orators, and politicians. The muscle most frequently and severely affected is the thyroarytenoideus.

Fungus infection of the throat and larynx as well as lungs. Aspergillus.

Aneurysm of the anterior wall of the aorta pressing forward against the larynx and trachea.

Dr. Edley H. Jones (Vicksburg): I have just completed taking Jackson's course and while I was in his clinic I saw a case of a nineteen-year-old girl who had a papilloma in childhood. They decided to give her x-ray therapy. It relieved her but now she has a laryngeal stenosis and has to report to his clinic twice a week for treatment.

Dr. R. E. Anderson (Jackson): I am sure I could not add anything to this paper that would be worth anything but I would like to emphasize one or two points. The paper was very interesting to me, especially that part where the doctor gave the anatomy of the larynx.

There is one thing that I have been impressed with and that is that everywhere that one hears outstanding men on the program, they all know anatomy. For a time I felt quite insignificant because I knew so little of what they were talking about. Then, about a year ago I began studying anatomy several hours a day, and I know more now than I did. One thing I want to mention is the appearance of the vocal cords. The appearance of the indirect is kind of a whitish color and the direct is more of a peach blossom color.

Carcinoma of Cervix Uteri

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Any attempt at covering the entire subject of carcinoma of the cervix belongs to one of far more years and much greater experience than myself. I am particularly impressed with this fact after noting the very voluminous material available through the Quarterly Cumulative Index and other cataloging agencies. There are, however, certain phases of the disease, classic though they may be, which warrant a presentation of the subject before those most concerned with cancer control and cancer therapy. Cancer of the cervix assumes new importance when it is realized that a fair proportion of malignancies occurring in women are genital in origin and of these genital carcinomata, a large portion involve the cervix uteri. Martzloff[1] found twenty-seven per cent genital in origin and eighty per cent of these to involve the cervix. Miller and Folsome[2], in 1026 malignancies of the female genitalia, found 676 to be of the cervix, a percentage of 64.91.

The cervix, projecting as it does into the free vaginal cavity and so often the site of malignant change, offers probably more means of accurate diagnosis through the use of inspection, palpation, biopsy, and other diagnostic aids than any structure of the body. Though ready of access to examination, the cervix is situated in close relation to the bladder, ureters and rectum. When invasion of these structures occurs either by malignant disease or as a result of therapeutic procedures designed for relief of the malignant changes, the result is very distressing to the patient and a source of greatest concern to the surgeon or radiologist.

Histologically, the tumors in question are of two general types, that is, epidermoid or squamous cell, arising from the squamous epithelium about the cervix, and adenocarcinomata which are of glandular origin. The commonest site of lesions is what may be termed the vermilion border of the cervix or about that place where the stratified epithelium blends into the columnar epithelium of the endocervix. Of the two types of cancer Curtis[3] reports only five per cent as adeno while Chalmers[4] reports that ten per cent of the whole are adenocarcinoma. Pathologists subdivide the two types into four grades after Broder[5] depending on the degree of immaturity or dedifferentiation of the cells. Clinically, and of utmost importance to the surgeon and radiologist, carcinomata of the cervix are usually classified as to the four stages of development, relevant to the degree of extension which has occurred locally and remotely.

Stage 1: The growth is small, limited entirely to the cervix and there is no paracervical involvement.

Stage 3: There is partial or almost complete fixation of the uterus, with induration or thickening of one or both of the cervical parametria which may extend out to the pelvic wall. Under this heading are also included those cases having extensive involvement of the vaginal wall and where detectable remote metastatic involvement is present though the primary growth may not be large.

Stage 4: There is the frozen pelvis with invasion of distant glands, extensive involvement of the recto and vesico-vaginal septa with involvement of the bladder wall itself. Various modifications have been made of the degree of local and metastatic involvement by Schmitz, Auer, Miller and Folsome[6]. It has been the observation of Auer[7], Witterdal[8] and others, as well as myself, that the stage of carcinoma of the cervix is of infinitely more importance from a prognostic point of view than the classification as to grade of histologic de-differentiation. Auer[7] and Witterdal[8] observed almost identical results in cases of the same stage but of different grades. It is probable that more highly malignant growths are seen which have more extensive extension because of the more rapid growth, hence the more marked invasion when they come to examination. It seems fitting, therefore, to conclude that a highly malignant grade four carcinoma, when small and confined to the cervix, would present the same prognosis as a less malignant tumor of similar extent.

Age is important in the diagnosis of cancer of the cervix. Bowing[9] and Fricke, in 1491 cases, found 1440 to be between the ages of thirty and sixty-nine with the largest number (496) occurring between the ages of forty and forty-nine. Age is not an invariable factor, however. On the service of Dr. J. W. Barksdale at the Jackson Infirmary, one case of carcinoma of the cervix was found this year in a girl, age nineteen, who was a virgo intacta. When examined she had had symptoms for six months. Macfarlane[10], in one thousand nulliparous women, found fourteen cases of carcinoma of the cervix; in one thousand parous women, thirty-seven were found. Bleeding, inter-menstrual in character, or occurring as sudden hemorrhages at the time of menstrual flow, though having other causes than cancer, should always arouse suspicion. The watery discharge of foul odor so often described, has, in my experience, occurred usually in those cases so advanced that sloughing and putrefaction had occurred, presenting no especial diagnostic difficulty. Post-menopausal bleeding is of cardinal importance from the clinical point of view in leading at least to the suspicion of malignant change. Taylor and Millen[11] found in 406 cases of post-menopausal bleeding that malignancies were present in 259 and that of this 259, one hundred and twenty-five were due to carcinoma of the cervix.

Whenever the suspicion of cervical lesions is aroused, the examination should be careful and minute; not only digital manipulation but inspection under the most favorable lighting conditions. When the cervix is difficult of exposure, it might be more readily brought into view by the use of a tenaculum and traction. Schiller's[12] test is used by me routinely when doing intravaginal examinations where open lesions are found but has not proven a diagnostic boon. The solution used for the test is iodine, one part, potassium iodide, two parts, and water 300. It has been my experience that many erosions and other lesions give a suggestive positive, and, on biopsy, prove benign, however, it may be of value in demarcating areas for removal of a section to receive microscopic examination. Schiller himself has noted that a positive reaction (based on the absence or decrease of glycogen in malignant cells) may be gotten in so-called "incipient" carcinoma, hyperkeratosis from prolapse or decensus vagina, hyperkeratosis from lues, and the traumatic removal of the superficial epithelium as in instrumentation.

In late lesions of the cervix where malignancies have produced papillary masses or large semi-necrotic cavities with foul discharge and sloughing, the examiner may say with a relative degree of assurance that the process is malignant, but it is the early, small lesion, usually situated near the transition of the cervical mucosa, red, firm, irregular, and bleeding easily on manipulation, which offers the greater percentage of cures, and which we would like to diagnose. Here, the biopsy and pathologist become our last court of appeals. The manner of taking the specimen to be examined is of the utmost importance; it seems facetious, but is nevertheless true, that the pathologist cannot find malignant cells unless they are incorporated in the specimen for examination. Irrespective of the type of instrument used for taking a specimen, whether it be the radio-knife, scalpel, cautery, punch, or other instrument designed for that purpose, I believe with Martzloff[1] that an ample specimen, involving both diseased and normal tissue should be secured. The bleeding from such a procedure is very readily controlled and the removal of a specimen causes a minimum of discomfort to the patient afterwards. It is obvious that in far advanced lesions, a section involving the margin of healthy tissue might be fraught with hazard. It is true in cancer of the cervix, as elsewhere, that accurate diagnosis is most important for the intelligent management of the situation. Biopsy not only serves as a differential from erosion, tuberculosis, polyps, and masses protruding from the cervix, but in conjunction with the dark field examination will determine whether or not the lesion be luetic. The mere finding of a positive Wassermann of Kahn reaction should not be relied upon to differentiate between early cancer and syphilis as the two might be co-existent.

After the advent of radium, therapy in malignant disease of the cervix underwent a vast change from the surgical techniques employed before. Being of an age which involuntarily threw me into radiation therapy, I shall discuss that phase of treatment.

Cancer of the cervix is handled on our service with an attempt to secure the highest possible rate of five-year cures and, at the same time, to produce a minimum of morbidity. The patient, after having biopsy and adequate diagnosis, is admitted to the hospital where routine laboratory procedures are carried out. If anemic to a certain degree, transfusion is carried out. A careful evaluation is made of the degree and extent of local and remote involvement, from which the stage is determined. At this time it is also determined what method, and what initial dose of radium will be administered. In stage one and two growths, where the mass is small and involvement of the parametrial tissues minimum, a single massive dose is administered, usually 4500 to 550 mgm. hrs. In stages three and four, the initial dose is usually smaller for fear of sloughing into neighboring structures, with consequent vesico or recto-vaginal fistulae, but additional radium is administered at a later date, usually within three weeks.

Before the administration of radium, the vaginal cavity is cleansed with a weak lysol douche and the patient given morphine with atropine, or morphine, atropine and one of the barbituric acid derivatives. Anesthesia is not always necessary in case of the first two stages. The radium is applied, usually in two capsules, one going into the uterine cavity, one remaining in the cervical canal, and one to three needles of ten mgm. directly around the margins of the carcinomatous lesion. Realizing that the effect of radium is inversely proportionate to the square of the distance, the bladder and rectum are packed as far away as possible and great care is taken to see that the bladder is kept empty.

In stages three and four, often it is impossible to enter the cervical canal, in which event, shielded needles are implanted directly into the carcinomatous mass and around its margins; these, usually, are allowed to deliver 3500 mgm. hrs. before being removed. Then, at a later date, when response to the radium has occurred, frequently within three weeks, the canal can be entered and an additional 1500 to 2000 mgm. hr. dose is delivered in tandem capsules in the uterus and cervix. This also constitutes that portion of patients who may be subsequently subjected to deep x-ray therapy. The above mode of management has blessed us with a very low operative mortality, there not having been a death in 125 cases. The mortality rate from the use of radium and x-ray is universally low. Shaw[13] reports a primary mortality of 2.1 per cent, Heyman[14] one to two per cent, and 0.8 per cent in a series of 1491 cases treated with radium, x-ray, or a combination of these agencies reported by Bowing and Frick[9].

After the use of radium or a combination of x-ray and radium, local and systemic response is remarkable; if loss of weight has been a prominent feature, a gain occurs rapidly, anemia, and general debility disappear and there is the early cessation of vaginal bleeding. Some vaginal discharge, profuse at first and after treatment, soon becomes less and disappears. Bladder symptoms, such as burning and frequency are common after irradiation but have not been difficult to control and are not permanent. Often, evidences of rectal irritation occur (so-called irradiation proctitis), but this syndrome has not been persistent. At the time of application of radium, whether in the vaginal cavity or in the uterine and cervical canals, vomiting has been a frequent occurrence in my experience.

Locally, in stages three and four, where large fungating or excavating lesions are found, healing has been found to occur to a surprising degree after treatment. Auer[7] found local healing to occur in almost identical percentages whether the dose of radium was more or less than 4500 mgm. hrs. However, of those receiving less than 4500 mgm. hrs. of radium, 46% had local recurrences, while those receiving more than that dosage had only 14% of local recurrence.

Although most persons treating cancer of the cervix use radium and x-ray, or a combination of these agencies, there is a wide variation in the techniques and combinations employed.

Ward and Sackett[15] use an initial dose of 3600-4200 mgm. hrs. which is administered by 100 mgm. radium in tandem intra-uterine applicator and needles of 12-13 mgm. inserted at the cervico-vaginal junction. Where vaginal involvement is marked, 75 mgm. is applied in a spring colpostat in the vaginal cavity. In advanced cases a total of 6000 to 6700 mgm. hrs. is administered. Radium therapy is followed in three weeks by deep x-ray therapy. Heyman[16], at the Radiumhemmet in Stockholm, uses a divided dose technique; three applications are usually made, the first two at weekly intervals and the last three weeks later. He uses a tandem in the uterus to deliver 800 mgm. hrs. at each application, and different forms of vaginal applicators which administer 1500 mgm. hrs. per treatment. After treatment is complete, the tandem will have delivered 2400 mgm. hrs. and the vaginal applicator 4500 mgm hrs. Since 1929, radium has been followed by deep x-ray. Healy[17, 18, 19] delivers his full dosage in thirty-six to forty-eight hours. This is preceded by deep x-ray therapy by 7-10 days. His radium is applied so that 1500 mgm. hrs. are delivered by a vaginal applicator and this is followed by an intra-uterine tandem giving 3000 mgm. hrs.

It will be seen from the preceding description of a few techniques on administration and dosage that no two are identical; I dare say that of those here who treat cancer of the cervix, no two would be found who use identical methods. It is of interest to me, however, to note that the five-year cure rates in general, and by various men in different parts of the world, remain about the same. Kimbrough[20], reporting on five-year survivals from radium, found very little difference between the University of Pennsylvania with 3.3, Lynch, University of California, 22.0, Ward and Sackett, 24.7 at the Woman's Hospital in New York. Schmitz[21] has reported improvement in his figures since the intensive use of deep x-ray therapy in conjunction with smaller doses of radium to the cervix.

It might be said in closing that because of its ready access, cancer of the cervix lends itself well to diagnosis, especially by biopsy, which should be done whenever cancer is suspected, that the degree of local and metastatic involvement is of much greater importance than the grade of malignancy. Radium and deep x-ray therapy offer a means of therapy consistent with low primary mortality rates and in far advanced lesions, a freedom for the most part, from local sloughing and draining lesions.

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DISCUSSION

Dr. Willard H. Parsons (Vicksburg): The essayist has, I think, very nicely presented the modern concept of the management of carcinoma of the cervix uteri. In the main, in discussing this problem, we are interested first, in determining the surest manner of establishing an early diagnosis; second, in the decision as to the proper therapy for that particular case and, finally, in determining the end results obtained from various types of treatment. It is to be regretted that Dr. Kendall failed to state the percentage of patients treated by him and Dr. Barksdale, who survived for five years or longer. In a series as large as the essayist reports (128) this finding would be of significance, particularly so, since all of the patients were treated solely by one mode of attack (radiation).

I concur entirely in the statement that biopsy is, in the final analysis, our sole means of establishing positively the diagnosis. As Dr. Kendall has well said, there are two desiderata essential to the drawing of correct conclusions from this examination, namely the tissue must be removed from the proper locality and the examination must be made by a competent pathologist. This association, the profession in general, and the public of this state, are most fortunate in that fairly recently we have had located in Mississippi Dr. John Henthorne, a pathologist of large experience and unquestioned ability.

The essayist, I believe, has made a valuable suggestion relative to the use of the Schiller test to indicate the proper site for removal of tissue for microscopic study.

The essayist is, of course, eminently correct in implying that it is almost universally held that the proper therapy for carcinoma of the cervix uteri is radiation, either by a single massive dose or by repeated smaller doses. It so happens that in general I prefer the former. I think, nonetheless, there remains still a small number of patients suffering this malady whose interests are best served by operation. Burch[1] says that "I have never published my results from the radical operation for cancer of the cervix on account of the fact that I have been a little shaky as to the effect of such a publication on the treatment of the disease. I am convinced myself that the operation at the moment does have a place in the treatment of cancer of the cervix, provided it is done by an experienced pelvic surgeon, under ideal conditions, that the case is a good surgical risk, and that the tumor is small and limited to the cervix, and that it is of the radio-resistant type." Burch[1] reports that he has operated upon twenty-one individuals, performing in each instance the Wertheim operation. There have been no operative mortalities. Six patients operated upon more than five years ago are living and well, two patients operated upon more than four years ago are living and well, and seven patients operated upon less than four years ago are living and well. Of a total of twenty-one patients operated upon, fifteen, or approximately seventy plus, per cent are living and well.

I have, myself, in the past eleven years operated upon five patients for this condition and of these four are living and well, one at the end of eleven years, one more than six years following surgery and two more than four years following surgery. There were no immediate operative deaths. The remaining patient died six months following radical hysterectomy of generalized carcinomatosis. This patient was an infant three months of age at the time she registered at the Clinic. It was established following biopsy that she had a highly malignant carcinoma of the cervix. A moderate dose of radium was administered without regression of the tumor, and therefore, following consultation, radical hysterectomy was performed. The patient died six months later of generalized carcinomatosis. During the same space of time twenty-eight patients were treated by application of radium, with about the results reported from most clinics.

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[1] Burch, Jno. C.: Personal Communication of the author.

In attempting a prognosis in the presence of carcinoma of the cervix uteri, the question of extension of the lesion is likely of more importance than either the age of the patient or the presence or absence of cell differentiation.

Dr. V. B. Philpot (Houston): They have already said all I know and a little more, but I want to emphasize two things. The most important feature of this subject of cancer is getting the attention of the patient with cancer early, and the educational campaigns that have been put over by cancer men in certain sections. I am told that in Baltimore cancer of the breast has been cut more than half due to the work done by Bloodgood during his time in that community in educating the public concerning the possibility of tumors and cancer of the breast. That is the thing we should be as much interested in as anything else, and that is to get these cases that are suffering little hemorrhage between the menstrual periods which they may not notice, early, and get at the treatment that these gentlemen recommend.

I am inclined to agree with Dr. Parsons that surgery has a place also in the treatment of these conditions. I have a few cases that I can recall. We always use radium and x-ray—a combination of the two, but frequently we also do a hysterectomy and our results have been as he said.

Dr. W. R. Bethea (Jackson): There is one thing I should like to consider. It is generally conceded by those who use both radium and x-ray, that a combined treatment be used in cancer of the cervix of the first grade. I think what Dr. Kendall has brought out is much more important in determining your diagnosis than the stages. Pathologists differ widely, and the same case may change in stage after it progresses a while. Also I think you should back your clinical judgment over your pathological, because you may not get an accurate pathological report due to the tissues selected for your study. Now as to the third and fourth stages and the type of irradiation—I think those all should have combined treatment of x-ray and irradiation.

I notice that Dr. Kendall has quoted some of the radiologists as using radium and x-ray. We have found rather an extensive work in the Baptist Hospital in Memphis, and while I was in Memphis they, too, took these cases for x-ray first. It gives you two points, you shrink this already corroded tissues. It gives you time to clean up your case from the standpoint of infection and it also gives you a better application of your radium. You can usually approach your cancer much more easily after irradiation. Have a few days in cleaning up your infections, and get your radium into your cervix and get a better application and thereby do less damage to your bladder and your rectum from your irradiation.

Dr. Nathan Kendall (closing): I wish to thank Drs. Parsons, Bethea and Philpot for their discussion. I have here as nearly as possible the figures on our follow-up of cancer of the cervix. Of 63 cases receiving irradiation during the course of the last 5 years, I mean we have been able to follow 63 cases, living as we do in a city of tremendous population where vast amounts of material are available it is sometimes difficult for us to carry these cases through to a conclusive 5 years follow-up period. In using irradiation alone and counting cases not reporting back as dead, we have 63% recoveries in stage 1, 50% in stage 2 and in stage 3, 19, and no case reporting in the 5-year period in stage 4.

I believe that if we were a little more rigid in the demarcation of our figures in advancement that that 10% would not be so high. I think probably some stage 2 cases have been carried over into stage 3.

In reviewing the literature three men examined the same patient, one recommended surgery, one called the case stage 2 and the other stage 3, depending upon the classification they were using. Frequently people in literature would report the use of surgery especially in stage 2; however, the mortality rate is reported by Mendel in the use of surgery in 1,000 cases. 15% have been dissecting the glands in the pelvis after or during the time radium is applied.

I again want to thank you for your kind attention.

Feeding A Normal Infant*

LUTHER L. McDOUGAL, JR., M.D.
PARIS, TEXAS

There has been much improvement in feeding infants during the last twenty years. This probably accounts for the marked reduction in infant mortality and aids in the prolongation of the life span.

To improve our stock and lower the mortality more, there should be a more widespread dissemination of the present information on this subject.

The care and feeding of an infant should begin soon after birth. As are all things, the simplest way to feed a baby is the best. Fancy formulae or complicated mixtures are not necessary and are seldom prepared properly by mother or nurse.

Breast Feeding

In spite of the improvement in milk mixtures, breast milk is still and probably always will be the choice, and more mothers should be encouraged to nurse their babies. When the mother has plenty of milk, there are few real necessities for weaning a baby, the principal one being tuberculosis. Weaning should take place when the baby fails to gain, when the nipples or breasts are in such condition the baby cannot obtain the milk, when nursing is painful to the mother, and occasionally for economic reasons.

It is often a good practice to explain to the mother that the mortality is ten times greater and the morbidity three or four times greater in artificially fed babies than in breast-fed babies. Many investigators (Grulee, Sanford, and Heron), prove that there are less gastrointestinal disturbances, respiratory and general infections in breast fed infants. By many observers it is estimated that less than 5% of severe cases of diarrhea occur in breast fed babies.

The incidence of mothers who nurse their babies has dropped to twenty-five per cent in many localities and as low as five per cent in a few. This is not because of the reasons given above, but because they have no desire to nurse their babies and oftentimes get too little encouragement from their physicians.

Except very small babies, the nursing period should be regular, every four hours. A three-hour period or "when he cries period" gives the mother and child very short periods of rest. It is generally the quantity and not the quality of the milk that causes the baby to cry and fail to gain.

Thus far no one has proved that to feed a baby during the first two or three days helps a great deal. However, it is good practice to give boiled water which has been cooled in quantities of one to three ounces every three to four hours. After the baby begins to receive milk, it is good practice to offer the baby water several times during the day, but not too close to feeding time.

The most common mistake made in babies who are breast fed is the reliance of breast milk for the complete diet over a long period of time. Other foods should be started when the baby is from three to five months old. Babies fed on milk diet alone stop gaining the normal amount and become poor and pale. They have nutritional, or frequently called, milk anemia.

Before nursing, the nipples should be carefully cleansed with sterile water or boric solution.

If the mother has sufficient milk fifteen minutes on one breast or eight to ten minutes on each is sufficient time for nursing. The mother should sit up and hold the infant in a semi-erect position in such a manner that the breast does not obstruct the nasal breathing of the child. Always allow the baby to belch after nursing. The upright position and a few taps on the back is all that is necessary.

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*Read before the Northeast Mississippi Thirteen Counties Medical Society at Aberdeen, Miss., September, 1939.

Artificial Feeding

For those babies who are denied nature's best food, a formula must be prepared. If this is prepared and given properly the baby should sleep well, cry but very little, and be happy. The formula should contain sufficient proteins, carbohydrates, fats, minerals, and vitamins for normal growth and development. If the food is digestible, there should be a minimum amount of colic, vomiting, and diarrhea. The food should be as free of pathogenic bacteria as possible.

The caloric requirement during the first week is approximately thirty calories with a gradual increase to fifty or fifty-five at three weeks. There is sufficient protein in one and a half to two ounces of cows' milk per pound of body weight to meet the normal requirements. The above will take care of the fat requirements and may be too much if it comes from some cows (as Jerseys) with very rich milk. The total fluid requirements is approximately three ounces per pound of body weight the first three months, gradually diminishing to around two and a half ounces at six months. If the baby is being seen every two to four weeks the formula should be computed on the expected weight rather than the present weight. If under-weight the expectation should also be considered.

The carbohydrate need may be computed by taking 1/10 to 1/12 of the weight in ounces. Fat babies, like fat adults, do not generally remain healthy so it should not be the aim of any one to make a baby fat so that he will temporarily be an attraction for the neighboring women. The aim should be to have a firm and healthy baby.

The caloric value of cows' milk is twenty calories per ounce. The caloric value of cane sugar and Karo syrup is sixty calories per tablespoon. Dextri-maltose has approximately forty calories per level tablespoon.

For example, if we had a nine-pound baby six weeks of age, and we desired to give him the optimum amount of protein, that is two ounces of cows' milk per pound, and a reasonable amount of carbohydrate or 1/12 ounces per pound, the formula would be in this manner:

Milk	9 x 2 = 18 oz.	360 cal.
Sugar	9 x 1/12 = ¾ oz.	90 cal.
	(1½ tablespoons)	
Water	9 oz.	450 cal.
Volume 9 x 3	27 oz.	

450 divided by 9 = 50 cal. per lb.

This will give four and a half ounces every four hours for six feedings. Some babies tolerate less protein and more carbohydrates better. It is a good practice to boil all milk and water for a baby until he is two years of age.

The boiling of cows' milk makes it safer and more easily digested, but unsweetened evaporated milk is probably superior for at least the first eight or ten months of life and no harm can be derived from giving it much longer.

Unsweetened evaporated milk is pure cows' milk from which sixty per cent of the water has been removed in the process of evaporation. This from a practical point reduces the volume to one-half. In reality it is slightly more. Evaporated milk is better because it is free of pathogenic organisms, the curd is much smaller, the fat globules are broken into small particles and remains evenly distributed in the milk and some of the companies have added vitamin D by irradiation.

Many observers, including myself, have noticed there is less colic, less vomiting and diarrhea, less constipation and a more rapid gain in weight when evaporated milk is used.

If one and three-fourths to two ounces of whole cows' milk per pound is the optimum protein requirement, seven-eighths to one ounce of evaporated milk will meet the same requirements. As above, we may use the example of a six weeks' old baby weighing nine pounds for an evaporated milk formula:

Evap. Milk	9 x 1 = 9 oz.	396 cal.
(44 cal. per oz.)		
Sugar	9 x 1/12 = ¾ oz.	90 cal.
Water	18 oz	486 cal.
	27 oz.	

486 divided by 9 = 54 cal. per oz.

Babies who take water well between feedings may be given a more concentrated formula. However, in general, babies in the

South especially during the summer do better on dilute formulae.

It is seldom if ever necessary to give a baby more than thirty ounces of whole milk or fourteen ounces of evaporated milk, because if they are given other foods early enough, they not only do not want more but do not need it.

Numerous pediatricians have advocated the use of acid milks because it neutralizes the buffer substances in the stomach so that the acidity approximates that when the baby is breast fed. It makes the curds even finer and changes the bacterial flora. In babies with very delicate digestive systems, in prematures, or in babies who have been sick for various reasons, it is often well tolerated in larger quantities. A few older babies and very young infants do not like it at first and some never do. It is not necessary as a routine for feeding a normal infant and adds to the labor of preparing a formula.

Lactic acid and fruit juices are the most commonly employed. The use of U. S. P. lactic acid is probably the easiest and the most uniform way to prepare acid milk. One and one-half teaspoons to the quart or five drops to the ounce of whole milk is required. The acid should be diluted with three or four tablespoons of water and poured very slowly into milk which has been boiled three to five minutes and then made cold—usually by refrigeration overnight. Stirring must be constant.

In preparing lactic acid milk from evaporated milk, three drops of lactic acid per ounce of half diluted evaporated milk may be added to the required amount of water and sugar and this gradually mixed with the milk after it is cooled.

There are numerous milk preparations on the market with which a baby can be satisfactorily fed, but time does not permit the discussion of more. The above, which has been tried by many and which has stood the test of time, is given as a simple fool proof method for feeding babies.

Carbohydrates are generally slightly increased until a baby is five or six months of age and then decreased until all of the sugar is out of the formula, and the child is on whole or a whole milk mixture at nine or ten months of age. Of course, if the child is underweight, carbohydrates should be left in the formula longer. Also, at nine or ten months or soon after, a baby should be weaned from the bottle to a cup.

INSTRUCTIONS

If a properly constructed formula with instructions as how to prepare it is given the mother, the baby should do well. Exact directions should be given on mixing the formula, on sterilizing the bottles, nipples, caps, etc. The baby's stomach should not be considered a metal box which will hold exactly two or three ounces at each feeding. Adults do not eat exactly the same amount three times daily.

The child should always be picked up when fed and not tossed a bottle flat on his back. He should be held in a semi-erect position at about a forty-five degree angle. After nursing, the erect position for two or three minutes will facilitate the expulsion of gas since it is lighter than air. When the child is put to bed after nursing, the right lateral position is the one of choice. No food should be given between feedings. Objects with holes in them should not be put in a baby's mouth, as they swallow air and get colic. The holes in the nipples should be adequate for the milk to drop out easily but not fast.

The digestive system of an infant is very delicate and may be affected by fear, fatigue, too much excitement, irregularity of feeding, under or over feeding, extreme heat or cold as well as by disease. After feeding an infant should be put to bed. If the father has to toss him around, it should be before feeding. It is often a very simple thing which makes the baby do poorly, and we should not forget that most young mothers do not know one fundamental principle about the care of their new babies.

VITAMIN REQUIREMENTS

There is sufficient vitamin B in milk for a normal infant until other foods are started. The vitamin A and D requirements may be met by giving two drops of a concentrate at three weeks of age and increasing a drop each week until ten or twelve drops are given. If a plain cod liver oil is given, one-half teaspoon at three weeks may be given with an increase of one-half teaspoon every two weeks until three teaspoons are reached.

The vitamin C requirement may be met by starting one teaspoon of orange juice at three weeks with an increase of one teaspoon each week until one or two ounces are received. In the early months it is better tolerated if strained and diluted with one-half water.

OTHER FOODS THAN MILK

The addition of other foods than milk to an infant's diet has been known to be of value for a long time. It teaches them to eat at an early age, prevents mineral and vitamin deficiencies, prevents milk or nutritional anemia, increases strength and muscle tone, promotes earlier dentition, and aids in preventing colds and other diseases.

There has been no set age at which to begin these foods and there probably never will be. The condition of the child and common sense are probably the best guides. These new foods should be given one at a time with a lapse of two to four weeks so that the child will have an opportunity to adjust himself to them. They should be started in small quantities—one-fourth to one-half teaspoon at a time—with a very gradual increase to a tablespoon after six to eight weeks.

SOLIDS

From three to four months is a conservative period to start other foods. Cereal is generally given first except in prematures or anemic infants where iron is badly needed, under which circumstances egg yolk is added to the milk.

This is usually given at 10 A.M. and 6 P.M. before the milk. Cereals prepared at home require two to three hours cooking while a pre-cooked cereal especially prepared for babies requires no cooking. The addition of two or three parts of boiled water or part of the formula is all that is necessary. At present I use pablum, Gerber's pre-cooked cereal and cream of wheat (5 min.).

At four to five months strained vegetable soup may be started before the 2 P.M. milk feeding.

Between five and six months strained or pureed vegetables are started before the 2 P.M. feeding. Peas, carrots, mixed greens and beets are good for beginners. For babies this age commercially prepared vegetables are far superior to home prepared vegetables because they are canned at the proper time, the best of vegetables are used, they are more uniform in consistency, more vitamins and minerals are retained and the food particles are very fine and homogeneous. At present they are so reasonable in price and so little is required at this age the poorest of people can buy them. In the clinic or clinic type of patient, relief agencies are generally glad to make such purchases.

Bread: After the baby's first tooth it may be given dried bread, Zwieback or Sun Wheat Biscuits.

At six or seven months or even earlier fruits may be started. I prefer strained applesauce or ripe banana. This may be mixed with cereal at 10 A.M. and 6 P.M., or given separately. If there is a tendency toward constipation the juice from prunes, figs and raisins may be given safely in teaspoon quantities as early as three or four weeks. After three or four months, strained prunes are probably more effective.

At seven to eight months a coddled egg yolk may be given separately or mixed with the vegetables and given before the 2 P.M. feeding. After one or two months small amounts of the white may be added so that by the time the baby is ten or eleven months of age he is taking a whole soft boiled, poached or grated hard boiled egg.

At eight or nine months meat juice, small amounts of ground beef or very crisp bacon may be added. At this time it is generally well to give the egg with morning feeding and the meats at the 2 P.M. feeding.

Between nine and twelve months a normal baby should be changed from a four-meal to a three-meal diet, should be drinking from a cup and making some attempt to feed himself.

At ten to twelve months most children do well on commercially prepared chopped foods. After three to six months the child may be gradually put on foods cut finely, run through a collander or coarse seive. These precautions often prevent diarrhea during the second year.

At this point it is well to emphasize that the baby should not be stuffed and that if the child is eating well and taking only a small amount of milk there should be no cause for alarm. Babies can thrive on a milk free diet. There should be no forcing or bribing and no comments except complimentary.

He should be fed at regular intervals and generally it is better not to give any food between meals except possibly fruit juice which should be given about midway so the stomach will be well emptied before the next meal. Candy, cake and ice cream are not necessary during the first year of life and when given later they should be given as desserts only.

A small quantity of food should be served and if this is taken well a second small helping may be given. If the first helping is not taken in a reasonable length of time (usually 15 to 20 minutes) his plate should be removed and no food allowed until the next regular meal. There should be no mention or visible evidence of dessert until a sufficient amount of fruits, vegetable and meat has been consumed. The food should be prepared and served in a manner pleasing to the appetite. Meal time should be one of pleasure, fussing or scolding should be postponed until after meals, if it has to be.

DIET FOR CHILD TWELVE TO FIFTEEN MONTHS

7 to 8 A.M.: Two to four tablespoons of cereal as pablum, Gerber's pre-cooked cereal or cream of wheat.

Five or six slices of ripe banana, two or three teaspoons of applesauce or other stewed fruit may be added.

One soft boiled or poached egg.

One-half piece of dry toast.

Four to eight ounces of whole boiled milk.

10 A.M.: Four ounces of half diluted fruit juice.

12 to 1, NOON: Two to three tablespoons of cooked vegetables as peas, carrots, mixed greens, asparagus, beets, etc. (Chopped vegetables are well tolerated at this age).

One to two tablespoons ground or scraped beef, chicken or lamb cut finely, crisp bacon, etc.

One to two tablespoons jello, junket, custard or stewed fruit.

Four to eight ounces whole boiled milk, if desired.

3:30 P.M.: Small amount of fruit juice, if desired.

6 P.M.: Cereal, stewed fruit, dry bread or toast and milk are generally sufficient for the evening meal if a good noon meal is taken.

PROHIBITED FOODS

Experience has taught us that there are certain foods which should not be given babies and small children. Among these are greasy and highly seasoned foods and fried foods of all kinds except crisp bacon. Corn, cucumbers and cabbage are frequent forerunners to severe diarrhea and vomiting. Coffee and tea are not necessary and will replace milk which is more important at this time. Pies, cakes, fancy cookies and ice cream will also replace other articles of food and are best put off at least to the latter part of the second year. No additional sugar is necessary and if the child is not accustomed to it he will never miss it.

RESULTS FROM PROPER FEEDING

If a baby has been fed properly and had the good general care which usually goes with it, you should expect to have a baby with a good disposition who sleeps the proper amount without being carried or rocked, who plays and entertains himself a large part of the time while awake and who cries or whines but little.

The scales are a great aid in following the growth and development of any child but cannot be relied upon as an entire guide. Some babies who are fed on a high carbohydrate diet gain rapidly for a while but become fat, flabby, pale and develop anorexia, anemia, and are susceptible to many diseases.

The aim is to have a slightly tan, firm, rugged child who has a good appetite and is sick but very little. He should hold his head up at three to four months, sit alone at six to eight months, stand alone at nine to ten months, take a few steps and say a few words at twelve months. He should walk and talk well before the end of the second year.

As for gain in weight the average baby will gain four to eight ounces per week during the first six months, three to six ounces from six to nine months, two to four ounces from nine to twelve months and eight ounces per month the second year. After this four to five pounds per year is satisfactory.

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DR. R. L. SANDERS

Dr. Robert Lee Sanders is a native son of the State of South Carolina. He attended public school in Anderson, South Carolina, later entered Patrick Military Institute, and completed his academic education at the George Peabody College in Nashville, Tenn. Thereafter, he spent two years in teaching in the public schools of his home state.

Strangely, Dr. Sanders is one of seven living brothers, five of whom are doctors. Although born on a farm and trained early in farm work, he tells that, in going about his tasks even as a small boy, he was imbued with the conviction that he should become a surgeon. Throughout his youth this conviction remained unaltered. Accordingly, following his brief teaching experience, he enrolled as a medical student at the University of Nashville, and was graduated from that institution in 1906. Without an internship and with no further training, he returned to South Carolina, where, with his older brother, he took up the practice of general medicine.

During those first years of the century surgical history was being made in that part of the country by a few venturesome and enthusiastic young doctors. Much of Dr. Sanders' work was of a pioneer nature, but from its hardships he learned the priceless lesson of self-reliance. Frequently, he found it necessary to operate in the homes of his patients and to improvise operating tables from kitchen and dining tables. Assistants and anesthetists were scarce, and on many occasions some member of the family or a neighbor would be pressed into service to administer chloroform. Trained nurses were not available, and the surgeon himself was compelled to do a large part of the postoperative nursing.

In the eight years thus spent, Dr. Sanders gained a wide and valuable experience and won the confidence and respect of his own country people, as well as that of the profession of upper South Carolina. At the expiration of that period, he gave up his practice and went to the Mayo Clinic, where he served a fellowship of three years in surgery, two of which were spent as first assistant to Dr. William J. Mayo. There, he received training and inpiration from the masters in abdominal surgery, a field in which he has worked with interest and success to the present moment.

Early in 1918, soon after leaving Rochester, Dr. Sanders was commissioned, first, a captain, and a short while later, a major in the Medical Corps of the United States Army. He served as Chief of the Surgical Service in the base hospitals at Camp Gordon, Atlanta, and Camp Devens, near Boston.

On being demobilized in the fall of 1919, Dr. Sanders returned to Memphis and, together with Dr. Otis S. Warr, organized the Sanders-Warr Clinic in 1920. This association was gradually enlarged to include a staff of several specialists, all devoted to the working out of the ideals fostered by the group practice of medicine. Dr. Warr died a few years ago. Dr. Sanders and his brother, Dr. L. C. Sanders, are still carrying on group practice as originally conceived, under the name of Sanders Clinic.

"Doctor R. L.," as his associates and friends call him, is one of the Chief Surgeons of the Baptist Memorial Hospital, where most of his surgery is performed. He is an associate professor of surgery in the University of Tennessee, College of Medicine, and in this capacity holds surgical clinics at the John Gaston Hospital for the senior medical students and intern staff. He takes an active part in the surgical sections of the American Medical Association and the Southern Medical Association, is a member of the Western Surgical Association and Southern Surgical Association, and is now president of the Southeastern Surgical Congress. He will preside at the annual meeting of the Congress in Birmingham on March 11, 12 and 13, 1940, and, after delivering his Presidential Address, will turn the gavel over to Dr. Irvin Abell, his successor.

The
Mississippi Doctor

Published monthly at Booneville, Mississippi

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Mississippi State Medical Association

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Manuscripts and material for publication under the Mississippi State Medical Association should be received not later than the twentieth of the month preceding publication. Address material to Lawrence W. Long, M.D., Suite 412 Standard Life Building, Jackson, Mississippi.

THE EDITOR-IN-CHIEF

All of us regret very much the recent illness of Dr. W. H. Anderson caused by an infection of his hand which has been quite painful and uncomfortable. He has had quite a trying time in the hospital in Memphis due to this illness and we of the the Mississippi State and Southern Medical Associations, regret very much to hear of this condition. We sympathize with his wife in this illness and realize the responsibilities and worry that have been thrown on her shoulders as well. We all hope for a very speedy recovery and look forward to the very near future when he will be out and with us again in the activities of organized medicine of which he is so much a part.

— L. W. L.

N. B. Dr. Anderson is now at home in Booneville convalescing. He will probably be confined to the house for another two or three weeks.

THE UNSOLVED FRACTURE

The intracapsular fracture of the neck of the femur has been called "the unsolved fracture" for many years. Since the attention of the medical profession in the South was called to the advances in treatment by internal fixation of this fracture by Dr. Martin, the outlook has been greatly improved for these patients. Particularly has the period of confinement to the bed and to the hospital been shortened. Pain is relieved and the patient is generally in a much better condition, but the solution has not been found completely as yet. It seems that the problem of putting any form of internal fixation into the neck of the femur, as has been done with the Smith-Peterson nail and several methods of internal fixation, is not solved with just that. The mechanical structure must be thought of as is mentioned by Moore and the engineering principles of these mechanics followed out. It seems that the solution to this fracture may be in the application of internal fixation along the edges of the neck where the bone is strongest, rather than placing some means of fixation in the canal where the bone is weakest.

I believe that the development of the technique of treating this fracture in this manner will possibly offer a better solution to the problem than is the method of the Smith-Peterson nail which seems to be more generally used than any other method and incidentally, requires more equipment and time than most of the other methods which have been described.

— L. W. L.

LOCAL USE OF SULFANILAMIDE

The recent report by Key and others of "The Local Use of Sulfanilamide in Compound Fractures and Dirty Wounds After Debridement" has received considerable attention because it has seemed to provide some means of combating freshly infected wounds. This promises to add one other use for the wonderful drug which now has many useful purposes in the treatment of diseases. It is also noted that its use locally in infected wounds and abscesses by dusting in the powder or crystals has been noted to be efficacious. Personally, it is used locally in old abscesses and carbuncles by building up a vaseline ring around the infected place and filling it with the sulfanilamide powder and covering it with vaseline gauze to prevent the loss of powder, keeping it saturated at all times in the serum and drainage of the wound. This process of treatment has cleared some very interesting conditions and bids fair to offer some new plans of treatment in the streptococcus infections which may be anaerobic, as well as aerobic. Its use is being noted also in lymphogranuloma which is first a localized disease and later becomes generalized. Therefore, its use orally to combat the disease as it becomes generalized and the sulfanilamide powder applied to the denuded area is proving equally as efficacious in the treatment of this condition as has fuadin or tartar emetic by hypodermic. The cost of the powder is very reasonable and the copious use of it offers a possibility of giving us one other means of treatment of some very serious infections which we have been unable to combat successfully in the past. Experimental work is being conducted along these lines by various authors showing that as high as eight hundred milligrams per cent of concentration may be expected in the serum of the wound when used locally as described above.

— L. W. L.

MID-SOUTH POST GRADUATE MEDICAL ASSEMBLY

Every doctor in the South is invited to attend the Fifty-Fifth Annual Session of the Mid-South Postgraduate Medical Assembly in Memphis at the Peabody Hotel. The meeting is to be held February 13-16, 1940. This is the Fifty-Fifth Annual Session of this meeting and bids fair to be the best of all that have previously been held. Each meeting seems to offer more and better information along the lines that are practical and that are needed by the doctors of the South.

Let me urge each and everyone of you to attend this excellent meeting, as you will note from the list of speakers printed here below that will have one of the best programs that has ever been presented.

Dr. Waltman Walters—Surgery—Rochester, Minn.
Dr. C. Gordon Heyd—Surgery—New York, N. Y.
Dr. Richard B. Cattell — Surgery — Boston, Mass.
Dr. Perrin H. Long—Medicine—Baltimore, Md.
Dr. R. M. Wilder—Medicine—Baltimore, Md.
Dr. L. S. Kubie—Psychiatry—New York, N. Y.
Dr. Lay Martin—Medicine—Baltimore, Md.
Dr. W. R. Cooke—Obstetrics—Galveston, Tex.
Dr. Quitman U. Newell—Gynecology—St. Louis, Mo.
Dr. R. G. Torrey—Medicine—Philadelphia, Pa.
Dr. Frederick H. Falls—Obstetrics—Chicago, Ill.
Dr. Henry B. Orton—Otolaryngology—Newark, N. J.
Dr. Albert D. Kaiser—Pediatrics—Rochester, N. Y.
Dr. Geo. G. Smith—Urology—Boston, Mass.
Dr. Ralph M. Tyson—Pediatrics—Philadelphia, Pa.
Dr. Derrick T. Vail, Jr.—Ophthalmology—Cincinnati, Ohio.
Dr. Henry W. Cave—Surgery—New York, N.Y.
Dr. Henry M. Goodyear—Otolaryngology—Cincinnati, Ohio.
Dr. H. Earle Conwell—Orthopedics—Birmingham, Ala.
Dr. W. S. Middleton—Medicine—Madison, Wis.
Dr. F. G. Blake—Medicine—New Haven, Conn.
Dr. Reginald Fitz—Medicine—Boston, Mass.
Dr. Maurice B. Visscher—Physiology—Minneapolis, Minn.
Dr. Roy W. Scott—Medicine—Cleveland, Ohio.

— L. W. L.

THE ACHILLES HEEL OF AMERICAN MEDICINE

This is the title of a booklet mailed out by The National Physicians Committee for the Extension of Medical Service explaining its objectives. Together with it came an appeal for contributions with which to carry out its aims.

Initially it will avocate:

"1. The maintenance of independent private medical practice.
2. The preservation and extension of our independent hospital system.
3. The centralization of all health services

of federal and state governments.

4. The determination of health requirements on the basis of locally gathered and locally interpreted data and the utilizing of grants-in-aid only under conditions of locally demonstrated needs.
5. Control and disbursement of public health funds by administrators locally appointed or locally elected."

This appears to be a good move and one which a large majority of the American doctors favor. The Central Committee shows physicians from 41 states and the District of Columbia. Mississippi is not represented on this committee. In such a worthwhile movement we should be doing our part.

The big obstacle this organization may have is in the securing of funds. This is especially so if the rank and file of the profession must be depended upon for the money.

It appears that the financially stable American Medical Association should execute this task. Then the entire profession would be surely backing it. There would be no loss of motion or inefficiency that will obviously result when a separate organization is created.

If the American Medical Association will not perform this task then it behooves the doctors in Mississippi to co-operate with the National Physicians Committee for the Extension of Medical Service.

— S. A. H.

HOSPITAL LEGISLATION

Our state legislature is now in session. The time is at hand for further hospital legislation that has been endorsed by the State Medical Association, the establishment of a modern central hospital. Dr. J. P. Wall, of Jackson, Mississippi, the very wide-awake president of the Association, has been very active in his efforts to carry out the wishes of the association. Mississippi has about one hundred hospitals within its borders that are quite well distributed. Some towns and cities have more hospitals perhaps than they need. It is evident that we need to raise the standards of the ones we have and make them more serviceable. It is very unusual for our state to have these hundred hospitals and not to have one that can offer an all round standard interneship. A general hospital centrally located along with our well equipped hospital for the mentally sick and tubercular hospitals could offer a splendid interneship. This is very important for organized medicine in our state, we believe. The centrally located hospital should be modernly equipped, containing we think at least 250 beds and its management should be removed as far as possible from politics. Deep x-ray therapy, radium and equipment suitable for taking care of the crippled of our state should certainly be made available. This hospital can act as a kind of clearing house for the more complicated and chronic cases referred by the other hospitals throughout the state. The per capita distribution of funds for the indigent sick in which Mississippi has taken the lead is one of the most forward steps ever taken in organized medicine. This plan is just, fair, and right. It has enabled many of our small hospitals over the state to live and to serve the people in the most remote country areas. With a central hospital and a five or ten cent per capita increase over the appropriation we now have the sick of our state that require hospitalization could be cared for quite well provided proper economy was observed in utilizing the funds. The city and county in which the central hospital is located should really contribute to its establishment and maintenance in addition to the state-wide appropriation. The rest of the hospitals, as we see it, should all be placed on an equal footing in participating in the funds for per capita distribution. Each county and town should be allowed to supplement these funds if they so desire. It is now time for us to think and act unselfishly and to go forward in perfecting our hospital system. We have other prblems to meet in giving full medical service to the people of our state but just at this time it would seem wise to concentrate on further perfection of our hospitals.

THE MID-SOUTH

The Mid-South Postgraduate Medical Assembly holds its annual session this year at the Peabody Hotel in Memphis, on February 13, 14, 15, 16. You will note the program in this issue of the journal, a complete list of the essayists. Every reader will conclude after looking it over that it is one of the best we have had in a number of years. The Mid-South is a little different from any other medical association we know in the United States. All the lectures are delivered in the Assembly Hall of the

Peabody Hotel. The program is planned to cover the entire field of medicine. The essayists are outstanding men throughout the nation, each one being an authority on the subject he discusses. He is given one full hour to summarize what he considers the most essential facts for the profession at this time. Each member of the profession, whether he be practitioner or specialist, can realize great benefits from this course of lectures. There needs to be a better understanding and closer co-operation between the practitioner and the specialist. This course of lectures is beneficial in this respect. The round table discussions which come at the luncheons each day allow free discussions and interchange of ideas between the essayists and anyone attending the meeting, which is most helpful. The Mid-South furnishes a summary, in truth, of the advancements in the field of medicine by the best authorities we have in a four-day course. Memphis, which is steadily growing as an outstanding medical center and in other ways, is one of the very best places in the United States to hold a meeting of this type. Make your plans now to attend the four-day course and listen to every lecture.

The eleventh annual session of the Southeastern Surgical Congress will meet in Birmingham March 11, 12, 13 with the Tutwiler Hotel as headquarters. Dr. R. L. Sanders, of Memphis, is the able president of the organization which now has nearly six hundred members.

The American Medical Association meets in New York City June 10 to 14.

PLAN PRESENTED TO GOVERNOR

Governor-elect Paul B. Johnson,
Hattiesburg, Mississippi,
My dear Sir:

Having been closely allied with organized medicine and public health in Mississippi for many years and having been a close observer of all phases of medicine and the distribution of medical service, I feel justified in approaching you on these subjects just as you are about to take over the duties and responsibilities of the Governor's office.

It cannot be truthfully denied, and should be frankly admitted, that medical service is not adequately supplied to all the people in our state and nation. It is, probably, true that in most large cities this is not the case; for in such cities there usually are enough charity beds and salaried physicians to give all necessary medical care to most of the indigent sick and injured. But in our state most of the people, as you must know, live in the rural districts, consequently free medical service is not available for the indigent, except as it is furnished by the local doctors. Doctors always have been willing—yea glad—to render free service to those who cannot pay. But the number of doctors, in rural districts, is rapidly decreasing while the number of medically indigent is rapidly increasing until it is physically and economically impossible for this free service to be furnished by the doctors who are still to be found living in these outlying rural districts. Something radical needs to be done (indeed must be done), if these people are to get medical care. Much has been said, and will yet be said, about increased hospital facilities to meet this demand. I want, if possible, to impress upon you that it is not hospitals or hospital support that is so much needed. It is that some way may be provided to pay the local doctor for his service to these people who cannot pay. I believe that with the exception of one large, well equipped and properly administered, centrally located hospital, Mississippi does not need more hospitals and more beds. Most sickness has always been, and always should be, treated in the homes of the people; for it is a known fact that most sick people do better when treated in their homes than when they are hospitalized even when they are able to pay hospital expense. What Mississippi needs, in my thinking, is more doctors who live and work in the country districts. And there would be more country doctors if the people were able to pay them for their service. I think a study of conditions in my own county—Monroe—will illustrate and prove the correctness of my contention. Thirty years ago there were thirty-two doctors living and working in the county. At that time the population was 20% less than at present. And yet all these doctors were making a decent living and were sending their children to college. Now there are but two doctors and it is doubtful if they are making a living from their practice. The reason for this is that one-third of the people do not and cannot pay medical bills. The few doctors that are left simply cannot carry this increased and increasing load of free work. What can be done to meet this crisis (and it is a crisis)? The American Medical Association issued a public statement that it is the duty of the medical profession and the allied professions to meet the situation and that it is the duty of the governments—local and general—to furnish the money to meet the expense of this great undertaking. I am sure that this statement of policy by the A. M. A. is sound. Now how may this be done adequately and efficiently? Mississippi, now, appropriates fifteen cents per capita to be spent for hospitalization of the indigent. None of this money is to be spent for medical care or for medicine. That is, no doctor is to be paid a penny for any service rendered an indigent. Practically all of this money is spent for hospitalization of surgical cases, while there are many times as many indigents who need attention because of sickness as there are those who need attention because of surgical conditions. These must go uncared for except as the local doctor—mostly country doctors—are able to look after their needs.

A few months ago the Northeast Mississippi Thirteen Counties Medical Society adopted a resolution asking that the present legislature appropriate fifty cents per capita instead of fifteen as at present, and that forty per cent of this amount be set aside for hospital expense and that forty per cent be set apart to compensate doctors for their service rendered the indigent in their homes. Fifteen per cent was to be earmarked for paying for medicine that might be prescribed by attending physicians and that not more than five per cent be used to defray administrative expense. This resolution also asked that the Federal Government be asked to appropriate one dollar per capita to be given each state according to population—this to be added to appropriation made by each separate state. This writer sent a copy of these resolutions just as adopted by our society, to Dr. Leland who has for many years been director of the Bureau of Medical Economics for the A. M. A., and asked him to study and comment on them. He replied that they were strictly in accord with the policies of organized medicine as set forth at a special meeting of the House of Delegates of the A. M. A. in 1938.

Will you please read this long letter carefully and write me something of your reactions to the suggested course?

I recognize no politics in any plan to better the condition of our medically indigent and make no political plea.

Yours very sincerely,

Amory, Miss. G. S. Bryan.
Jan. 1, 1940.

News and Comments

Dr. W. H. Brooks, of Sardis, married Miss Grace Evelyn Taylor, of Memphis, October 29, 1939. Dr. Brooks was a graduate of the University of Tennessee. Mrs. Brooks was a graduate of the Baptist Memorial Hospital Training School for Nurses in Memphis. They will make their home in Sardis.

Dr. W. E. Noblin, Sr., Hinds County Health Officer, has been chosen president-elect of the Central Medical Society and will take office in 1941. Dr. W. H. Watson is president for 1940.

Dr. H. C. Ricks and Dr. N. F. Kendall, both of Jackson, were re-elected secretary and treasurer, respectively.

Dr. L. A. Barnett, supervisor of the Leflore County Health Department for the past nine years, died at his home in Greenwood December 5 of a heart attack. He received his medical degree from the University of Tennessee in 1920 and was engaged in private practice at Holly Springs until 12 years ago, when he accepted a position in the Public Health Department of Union County. He moved to Greenwood from New Albany in 1930.

Dr. John Hilliard Masterson, 80, Leighton, Ala., died at Florence, Ala., hospital Nov. 16.

Dr. J. Milton Terry, retired physician, of Philadelphia, Miss., died Nov. 15. He was 66.

EIGHT PHYSICIANS AWARDED FELLOWSHIPS FOR STUDY AT TULANE

Dr. Felix J. Underwood, Executive Officer, State Board of Health, announced today that eight Mississippi physicians had been awarded postgraduate fellowships for three months' study at Tulane University, New Orleans, La.

These fellowships are granted by the Commonwealth Fund of New York City. This humanitarian organization has been co-operating with the Mississippi State Board of Health since 1931. More than 100 Mississippi physicians have been awarded postgraduate fellowships for study during the period. Several physicians from the state have been awarded special fellowships for study in chest surgery and tuberculosis.

Forty Mississippi boys have been awarded four-year scholarships by the Commonwealth Fund for the study of medicine at Tulane University, New Orleans, La. These awards are based upon previous school record, financial need, good health, character, and personality.

The following Mississippi physicians will begin courses at Tulane University on January 8, 1940:

Thomas J. Barkley, Isola.
Eugene V. Bramlett, Oxford.
W. L. Chambers, Pickens.
Hiram B. Gilmer, Hickory.
D. L. Hollis, Biloxi.
Robert P. Hudson, Utica.
Charles F. Lacey, Thomastown.
Hiram C. Sheffield, Jackson.

FROM THE ROBERT E. LEE HOTEL

Jackson, Miss.
Dec. 15, 1939

Dr. W. H. Anderson, Editor
The Mississippi Doctor
Booneville, Mississippi
Dear Dr. Anderson:

We have been requested by Dr. J. Percy Wall to make a statement for your publication concerning rates for the State Medical Association next spring.

Might we say that it has never been the practice of the Robert E. Lee to raise rates on any one. It is true, however, that we are willing to reserve only a limited number of rooms at the single rate. We feel the reason for this is most evident in that we could scarcely hope to accomodate your convention with many such reservations. It may have been possible that some of your doctors reserved and paid for a double room and only used it singly. This might, of course, seem a raise in rates when it was merely an effort to accomodate the whole group. We are pleased to give you our complete schedule of rates and other than above outlined, can guarantee there will be no variation in same:

Rooms, single occupancy	$2.50 to $3.50
Rooms, double occupancy	$3.50 to $5.00
Rooms equipped with double and single bed, 3 persons	$5.25
Rooms, equipped with 2 double beds, 4 persons	$6.00

We are contemplating a rather extensive air-conditioning program. If this is completed by the time of your convention, then there will be an additional charge of 50c per room on those rooms which are air-conditioned. We assure you that we look forward to the opportunity again to serve the State Medical Association, and with best wishes, we are,

Sincerely yours,
Stewart E. Gammill, Jr., Manager.

LIST OF EXHIBITORS FOR THE 1940 MID-SOUTH POSTGRADUATE MEDICAL ASSEMBLY, MEMPHIS

Mr. H. B. Collins, E. L. Mercere, Inc., 191 Madison Avenue, Memphis, Tenn., Space 1.

Mr. W. E. Vennard, Frederick Stearns and Company, 6533-55 E. Jefferson Avenue, Detroit, Michigan, Space 2.

Mr. H. L. McKenzie, General Electric X-Ray Corp., Sterick Building, Memphis, Tennessee, Spaces 3 and 4.

Mr. Don Richards, Richards Manufacturing Company, 756 Madison Avenue, Memphis, Tennessee, Space 5.

Mr. W. N. Larson, Mead Johnson & Company, Evansville, Ind., Spaces 6 and 7.

Mr. W. H. Risley, Assistant General Sales Manager, R. B. Davis Sales Company, Jackson, Ferry and Harrison Streets, Hoboken, N. J., Space 7½.

Mr. H. S. Kinney, Scientific Sugars Company, Columbus, Ind., Space 8.

Mr. E. C. Dieckerhoff, Schering Corporation, Bloomfield, N. J., Space 9.

Mr. N. R. Shubert, J. A. Majors Company, 1301 Tulane Avenue, New Orleans, La., Space 10.

Mr. F. Kraus, Merck & Company, Inc., Rahway, N. J., Spaces 11 and 12.

Mr. George W. Orr, Jr., Wm. S. Merrell Company, Cincinnati, Ohio, Space 13.

Mr. Jack Reynolds, Jones Metabolism Equipment Company, 315-323 South Monroe Street, Chicago, Illinois, Space 14.

Mr. Gerald Milot, Prescription Products Division, The Borden Company, 350 Madison Avenue, New York City, N. Y., Space 15.

Burroughs Wellcome & Company, 9 and 11 East Forty-First Street, New York City, N. Y., Spaces 16 and 17.

Dr. C. Thornton Longfellow, G. W. Carnrick Company, 20 Mt. Pleasant Avenue, Newark, N. J., Spaces 18 and 19.

Mr. H. J. Scherck, Jr., A. S. Aloe Company, 1813-23 Olive Street, St. Louis, Missouri, Spaces 26 and 27.

Dr. Lillian B. Storms, Department of Nutrition and Service, Gerber Products Company, Fremont, Michigan, Space 28.

Mr. L. H. Ashe, E. R. Squibb & Sons, 745 Fifth Avenue, New York City, N. Y., Space 29.

Mr. Howard Goodwin, Mellin's Food Company, Boston, Mass., Space 30.

Mr. Hayes Brantley, Southern Surgical Supply Company, 909 Madison Avenue, Memphis, Tennessee, Space 31.

Mr. F. M. Rhatigan, Bard Parker Company, Inc., Danbury, Conn., Space 32.

Mr. G. B. Close, Ohio Chemical Company, 1177 Marquette Street, Cleveland, Ohio, Space 34.

Mr. W. F. Greenwald, Philip Morris and Company, Ltd., 118 Fifth Avenue, New York City, N. Y., Space 35.

Mr. John L. Hammer, Jr., Smith, Kline and French Laboratories, 105 North Fifth Street, Philadelphia, Pa., Space 36.

Mr. H. M. Richard, Union Manufacturing Company, 2537 Broad Street, Memphis, Tennessee, Space 37.

Mr. C. A. Arnett, Puritan Compressed Gas Corp., 2nd Unit Santa Fe Bldg., Dallas, Texas, Space 38.

Dr. Edward R. Neary, White Laboratories, 113 North 13th Street, Newark, N. J., Space 39.

Mr. T. A. Phillips, J. B. Lippincott Company, East Washington Square, Philadelphia, Pa., Space 40.

Mr. R. A. McCampbell, Dietene Company, 607 Fifth Avenue, South, Minneapolis, Minn., Space 41.

Mr. W. F. Taylor, Lederle Laboratories, 205 Pere Marquette Bldg., New Orleans, La., Space 44.

Mr. Phil M. Wright, Abbott Laboratories, North Chicago, Ill., Space 45.

Mr. F. S. Dieterich, The Mennen Company, Newark, N. J., Space 46.

Mr. W. B. Stevens, The Dick X-Ray Company, Medical Arts Building, Memphis, Tennessee, Space 47.

Mr. J. C. Keir, Petrolagar Laboratories, 8134 McCormick Blvd., Chicago, Illinois, Space 48.

Dr. J. H. Frazer, The Arlington Chemical Company, Yonkers, N. Y., Space 49.

Mr. Bud Kay, Kay Surgical Inc., Medical Arts Building, 246 Madison Avenue, Memphis, Tennessee, Spaces 50 and 51.

Mr. F. H. Green, The DeVilbiss Company, Toledo, Ohio, Space 52.

Mr. Will Carlton, Advertising Department, John Wyeth and Brother, Inc., 1118 Washington Avenue, Philadelphia, Pa., Space 52½.

Mr. H. T. Fischer, H. G. Fischer Company, 2323-2345 Wabansia Avenue, Chicago, Illinois, Space 53.

Dr. Raymond M. Rice, Director of Professional Relations, Eli Lilly and Company, Indianapolis, Ind., Space 54.

Mr. D. O. Tracy, Pet Milk Sales Corporation, Arcade Building, St. Louis, Missouri, Spaces 58 and 59.

Mr. C. T. Conway, Sales Director, U. S. Standard Products Company, 1140 Merchandise Mart, Chicago, Illinois, Space 55.

Mr. F. B. Heard, H. J. Heinz Company, Pittsburgh, Pa., Space Between Stairs near Parlors A and B.

Mr. Henry E. Ditzel, Sharp and Dohme, Philadelphia, Pa., Space 56.

THE NEW ORLEANS GRADUATE MEDICAL ASSEMBLY

The fourth annual meeting of the New Orleans Graduate Medical Assembly will be held at the Roosevelt Hotel, February 26-29, 1940, honoring Dr. Rudolph Matas, Professor of General and Clinical Surgery, Emeritus, Tulane University School of Medicine. Dr. Matas is nationally and internationally known for his work in the fields of vascular surgery and a reception will be given on the opening night of the meeting as a tribute to his sixtieth year in active practice.

In keeping with the established policy, eighteen guest speakers have been carefully selected because of their actual experience and their ability to present their subjects The program has been planned to meet the needs of all members of the profession and although the subjects will be approached from specialized viewpoints, the presentations will be of a strictly practical nature and of great value in keeping all groups abreast with medical progress. The program committee has especially planned to have allied subjects on the same or successive days.

Also included in the program will be daily roundtable luncheon discussions, approximately four hundred feet of outstanding scientific exhibits, medical motion pictures and fifty-two interesting technical exhibits. In addition, there will be a symposium, a clinical pathological conference and an escorted tour of the new $12,500,000 Charity Hospital which accommodates 2,500 bed patients.

Because of the wealth of clinical material in New Orleans, and in response to the many requests from registrants, the New Orleans Graduate Medical Assembly will conduct clinics in medicine, surgery and allied specialties in the hospitals on Friday, March 1, the day following the scheduled assembly dates.

The registration fee of $10.00 covers all of the above features, including the reception and daily roundtable luncheons. The program is well planned and the meeting will be an enjoyable and profitable vacation. For further information write, the New Orleans Graduate Medical Assembly, 1430 Tulane Avenue, Room 105.

THE NEW ORLEANS GRADUATE MEDICAL ASSEMBLY

Honoring Dr. Rudolph Matas

February 26, 27, 29, 1940—New Orleans, La.

GUEST SPEAKERS

18 Physicians of National Reputation

Dr. Frances M. Rackermann, Boston—Allergy.
Dr. Henry E. Michelson, Minneapolis—Dermatology.
Dr. David P. Barr, St. Louis,—Endocrinology.
Dr. Henry L. Bockus, Philadelphia—Gastroenterology.
Dr. Quitman U. Newell, St. Louis—Gynecology.
Dr. James S. McLester, Birmingham—Medicine.
Dr. Fred M. Smith, Iowa City—Medicine.
Dr. Henry W. Woltman, Rochester—Neuropsychiatry.
Dr. William J. Dieckmann, Chicago—Obstetrics.
Dr. Arthur J. Bedell, Albany—Ophthalmology.
Dr. M. N. Smith-Peterson, Boston—Orthopedics.
Dr. William Mithoefer, Cincinnati—Otolaryngology.
Dr. Shields Warren, Boston—Pathology.
Dr. John A. Toomey, Cleveland—Pediatrics.
Dr. Donald S. Childs, Syracuse—Radiology.
Dr. Vilray P. Blair, St. Louis—Plastic Surgery.
Dr. Eldridge L. Eliason, Philadelphia—Surgery.
Dr. William F. Braasch, Rochester—Urology.

ANNOUNCEMENT

A Sectional Meeting of the American College of Surgeons will be held in New Orleans, Louisiana, with headquarters at the Roosevelt Hotel, on January 17, 18, 19, 1940. The following states will participate: Louisiana, Mississippi, Alabama, Georgia, Florida, Tennessee, Kentucky, Missouri, Arkansas, Texas, Kansas and Oklahoma.

The Committee on Local Arrangements, which is making plans for an exceptionally interesting meeting, has for its officers: Dr. Mims Gage, chairman; Dr. Ambrose H. Storck, secretary.

A number of distinguished visiting surgeons from various parts of the country will address the sessions. Among these will be Dr. George P. Muller of Philadelphia, president of the American College of Surgeons; Dr. Frank E. Adair of New York, chairman of the Committee on Cancer of the College; Dr. Frederic A. Besley of Waukegan, secretary of the College; Dr. Arthur W. Allen of Boston, lecturer in surgery at Harvard University Medical School; Dr. Louis H. Clerf of Philadelphia, professor of laryngology and bronchoscopy, Jefferson Medical College of Philadelphia; Dr. Edward D. Churchill of Boston, John Homans professor of surgery, Harvard University Medical School; Dr. Claude C. Coleman of Richmond, clinical professor of neurological surgery, University of Virginia, Department of Medicine; Dr. William J. Engel of Cleveland, surgeon, Cleveland Clinic Hospital; Dr. J. Deryl Hart of Durham, North Carolina, professor of surgery, Duke University School of Medicine; Dr. William H. Luedde of St. Louis, director, department of ophthalmology, St. Louis University School of Medicine; Dr. Michael L. Mason of Chicago, associate professor of surgery, Northwestern University Medical School; Dr. Carl H. McCaskey of Indianapolis, professor of otolaryngology, Indiana University School of Medicine; Dr. John O. Reynolds of Dallas, ophthalmic and aural surgeon, St. Paul's and Methodist Hospitals, Scottish Rite Hospital for Crippled Children; Dr. Charles L. Scudder of Boston, consulting surgeon, Massachusetts General Hospital; and Dr. Malcolm T. MacEachern of Chicago, associate director, American College of Surgeons.

Mississippi State Medical Association

Organized in 1[illegible]7 **Next Meeting: May, 1940, Jackson.**

OFFICERS

President—J. Percy Wall, Jackson
President-Elect—W. H. Anderson, Booneville
Vice-Presidents—Hugh Johnston, Vicksburg
T. E. Ross, Hattiesburg
J. E. Ellis, West Point

Secretary—T. M. Dye, Clarksdale
Editor—Lawrence W. Long, Jackson
Historian—Leon S. Lippincott, Vicksburg
Speaker—J. Rice Williams, Houston
Treasurer—E. Leroy Wilkins, Clarksdale

COUNCIL

First District—J. W. Lucas, Moorhead
Second District—L. L. Minor, Rt. 4, Memphis, Tenn.
Third District—R. B. Caldwell, Baldwyn
Fourth District—J. K. Avent, Grenada
Fifth District—Lawrence W. Long, Jackson
Sixth District—H. Lowrey Rush, Meridian
Seventh District—J. P. Culpepper, Hattiesburg
Eighth District—W. H. Frizell, Brookhaven
Ninth District—D. J. Williams, Gulfport

COMMITTEES

Program:
Surgery—Edwin Benoist, Natchez
Hygiene and Public Health—E. W. Noblin, Sr., Jackson
Medicine—Ira Seale, Holly Springs
E. E. N. and T.—E. Staton, Columbus

Anti-Barbiturate:
J. M. Acker, Aberdeen
J. Gould Gardner, Columbia
L. S. Lippincott, Vicksburg
B. J. Marshall, Whitfield
E. LeRoy Wilkins, Clarksdale

Public Policy and Legislation:
Felix J. Underwood, Jackson
Henry Boswell, Sanatorium
W. H. Anderson, Booneville

Charity Hospitals:
J. C. Culley, Oxford
W. W. Crawford, Hattiesburg
John Darrington, Yazoo City
B. B. Martin, Vicksburg
H. R. Shands, Jackson

COMPONENT SOCIETIES

County Society	President	Secretary-Editor	Time of Meeting
Adams	James C. Rice, Natchez	Fred Geisenberger, Natchez	Third Tuesday 7:30 p. m.
Alcorn	G. W. Googe, Rienzi	Bernard Patrick, Corinth	Third Thursday 7 p. m.
Amite	W. S. Stewart, Osyka	H. A. Butler, Liberty	Second Thursday 7:30 p. m.
Central Medical	W. H. Watson, Jackson	H. C. Ricks, Jackson	First Tuesday 7:30 p. m. Omit J and August.
Claiborne		G. W. Acker, Port Gibson	
Clarksdale and Six	W. H. Williams, Tunica	L. B. Austin, Rosedale	1st Wed. March and Sec. Wed. N
Clarke-Wayne	W. P. Gray, Waynesboro	Albert Hand, Shubuta	
Coahoma	L. H. Brevard, Clarksdale	Julius L. Levy, Clarksdale	
Coast Counties	B. B. O'Mara, Biloxi	D. L. Hollis, Biloxi	
Delta Medical	G. Y. Gillespie, Greenwood	F. M. Acree, Greenville	Sec. Wed. April and Oct., 2 p.m
DeSoto	Henry M. Wadsworth, Hernando	L. L. Minor, Memphis, Rt. 4	
East Mississippi	C. H. Harrison, Philadelphia	Guy T. Vise, Meridian	
Franklin	C. A. Everett, Bude	L. Costley, Meadville	
Issa-Shar-Warren	Walter E. Johnston, Vicksburg	Alston Callahan, Vicksburg	
Jefferson	C. R. Senter, Byhalia	Herbert Phillips, Holly Springs	Second Thursday.
Marshall		W. T. Harper, Fayette	
Newton	W. L. Henton, Decatur	Dudley Stennis, Newton	
North Mississippi	C. M. Speck, New Albany	A. H. Little, Oxford	Third Wed., Jan., April, July, C
Northeast Miss.	J. W. Lipscomb, Columbus	A. J. Stacy, Tupelo	Sec. Tue., Mch., June, Sep., Dec.
Pike	E. M. Givens, McComb	T. Paul Haney, Jr., McComb	First Thursday
Pontotoc	J. H. Windham, Ecru	E. B. Burns, Pontotoc	
South Mississippi		Van C. Temple, Hattiesburg	
Sunflower		H. B. Cottrell, Indianola	
Tallahatchie	G. Lacy Biles, Sumner	J. E. Powell, Charleston	
Tate	W. D. Smith, Senatobia	J. S. Eason, Coldwater	Second Wednesday
Cop.-Law.-Lin.-Wal.	J. J. Pittman, Tylertown	R. B. Zeller, Hazlehurst	Sec. Tue., March, April, June, D
Webster	E. T. Arnold, Bellefontaine	H. K. Curry, Eupora	
Wilkinson	C. E. Catchings, Woodville	E. M. Butler, Centerville	
Winona District		S. B. Caruthers, Grenada	

Interpreting Medical Literature

STAFF OF REVIEW

Dermatology—James G. Thompson, Jackson.

Eye, Ear, Nose and Throat—Alston Callahan, Vicksburg.

Obstetrics and Gynecology—J. W. Lucas, Greenwood.

Orthopedics—Thomas H. Blake, Jackson.

Pathology and Clinical Pathology—John C. Henthorne, Jackson.

Pediatrics—Harvey F. Garrison, Jackson.

Public Health—Felix J. Underwood, Jackson.

Radiology and Roentgenology—Karl O. Stingily, Meridian.

Surgery—W. H. Parsons, Vicksburg.

Urology—Temple Ainsworth, Jackson.

Discussion and comments are invited.

DERMATOLOGY

A condition that has confused dermatologists since the first cases of it were reported, is discussed at fair length under the heading: "The Senear-Usher Syndrome," review of the literature and report of six cases.

The article is written by Udo J. Wile and Harry L. Arnold, Jr., in the November, 1939, Archives of Dermatology and Syphilology, V. 40, No. 5, pp. 687 to 706.

This condition has been confused with pemphigus, both foliaceus and vulgaris, and lupus erythematosus, and is thought by some men to be a combination of the two diseases, or to be caused by a virus that produces symptoms of lupus erythematosus and pemphigus. Some writers have tried to compromise by calling it "Senear-Usher pemphigus." But, be that as it may, this article is an excellent discussion of the problems involved in differentiating pemphigus and lupus erythematosus, treatment of the condition, and a review of the literature with regard to all of the cases of Senear-Usher syndrome that have ever been reported.

Dr. John H. Lamb, of Oklahoma City, reports two cases of a recurrent bullous dermatitis caused by the ingestion of "Anacin." The A. M. A. laboratory analysis showed that each tablet contained 3 grains of acetylsalicylic acid, one-half grain of quinine sulfate, one-third grain of caffeine, and 3 and one-third grains of acetophenetidin. The dermatitis was demonstrated to be caused by the quinine.

Dr. Samuel Goldblatt, of Cincinnati, studied the records of over 25,000 ambulatory negro patients at Shoemaker Clinic in an attempt to determine whether patients with syphilis were more likely to have pulmonary tuberculosis. It was found that the incidence of syphilis in the clinic population was 33.7 per cent. The incidence of tuberculosis in the syphilitic patients of the clinic was found to be 1.8 times as great as in the non-syphilitic patients.

It was concluded that there was a higher mortality among tuberculosis patients with syphilis than among those without.

So, it seems from the above that there is some reason for the belief that patients with syphilis are more susceptible to pulmonary tuberculosis than those without.

ARCHIVES OF DERMATOLOGY AND SYPHILOLOGY, V. 40, No. 5, November, 1939.

— J. G. T.

EYE, EAR, NOSE AND THROAT

SECTIONAL MEETING AT THE SOUTHERN MEDICAL CONVENTION—

It was a real pleasure and a gratifying experience to be present on Wednesday, "Ellett Day," of the Memphis meeting; to hear the sincere and loving tributes paid to Dr. E. C. Ellett. Everyone present was acutely conscious of an experience that was unusually stimulating to one's emotions, not just passively to admire his life, but vigorously to strive to emulate it. The eyes of many doctors in the audience, hardened by familiarity with the outpourings of human hearts, filled with tears when Dr. Ellett took the floor for a few remarks. Had there been no program of scientific value, it would still have been worth one's while to attend this session.

Dr. Lawrence T. Post, editor of the AMERICAN JOURNAL OF OPHTHALMOLOGY, gave us a splendid chairman's address on "Items of Prevention in Ophthalmology." It was this writer's first attendance at a paper of Harry S. Gradle and it was easy to understand his prominence. Dr. Gradle emphasized that one of the most frequent mistakes made in the handling of glaucoma cases was that we worshipped too much at the shrine of tension, and he pointed out that the patient did not care whether the tension was 25 mm. of hg. or 50 mm. of hg., as long as he could see without difficulty. He further pointed out that the fields and central visual acuity are far more important, and mentioned that he had been watching a case for ten years with a tension of 38 mm. of hg. which had never had any field changes or a loss of visual acuity; and reminded us that we all have had cases of glaucoma in which although the tension was never elevated above 25 mm. the eye was lost. Dr. William D. Gill made a further report on his treatment of sympathetic ophthalmia with pigment injections. Dr. Wesley McKinney, junior associate of Dr. Ellett and Dr. Rychener, gave a case history of a man reduced to light perception which Dr. Gill cleared up with his treatment. So we of the older ophthalmologists seemed to believe that Dr. Gill may be slightly prejudiced in his belief in the usefulness of his form of treatment, but we must not forget that progress in the medical world is usually brought about by men who are accused by their contemporaries as being too one-sided. While we personally do not subscribe to all of the beliefs of Dr. Gill, we admire greatly his work and follow it closely, for we believe that it is to be merited. Dr. Mason Baird mentioned the number of corneal ulcers which had not been helped by usual treatment, but which were helped a great deal by the use of x-ray. While this thought is not entirely new, Dr. Baird's details regarding its use were quite illuminating, and we believe that it is a valuable adjunct to the education of an ophthalmologist.

Dr. Chevalier L. Jackson's paper on "Cancer of the Larynx" was a classic and was delivered in the usual able manner. Some of the finer points of examination of the larynx with the mirror were brought out by Dr. Jackson and his attitude towards the members of the group in semi-apologizing for the splendid information that he thus rendered was quite admirable. Dr. V. K. Hart's motion picture on atelectasis of foreign body and non-foreign body origin was quite instructive; pictures in ophthalmology and otolaryngology never fail to be absorbing. In this discussion of his paper, Dr. Hart mentioned that despite the investigation now being done on oily nose drops that in his experience, he did not believe such medication to be dangerous under ordinary conditions. Dr. Murdock Equen's paper on "Obstructive Chondroma Requiring Total Laryngectomy" detailed a heroic procedure. Dr. Costen had more cases and reports on his favorite subject of "Rretrobulbar Neuritis and Paranasal Sinus Disease." Dr. Thomas Moore, quite an authority on cataracts and their treatment, presented an excellent paper showing that diet and vitamins are important factors in the occurrence of this condition. The report on "Night Blindness and Vitamin A Deficiency in Pulmonary Tuberculosis" of Dr. Robin Harris and John S. Harter was warmly received. Dr. Harris has been interested in the ocular aspects of vitamin deficiency and last year read a paper on this condition at Gulfport, which was printed in the November issue of the MISSISSIPPI DOCTOR.

This sectional meeting of the Southern Medical Association seemed to us to be one of the most instructive that they have ever had.

—Alston Callahan.

MODIFIED BARRAQUER SUCTION EXTRACTION OF CATARACTS, The Eye, Ear, Nose and Throat Monthly, October, 1939. Contributed by Fred Gosenberger, M.D.—

The eye is prepared with drops of 2% atropine and later followed by 10% cocaine and adrenalin. The old method was to use 5% cocaine because a 10% solution was thought to cause desquamation of the cornea. This, however, has been found to be untrue.

The obicularis oculi is inhibited by extraocular injections of 2% novocaine. This is done by making a small subcutaneous injection at a point about one cm. lateral to the outer canthus of the eye on the temporal rim of the orbit. Following this, a long needle is inserted deep within the orbital cavity, staying close to the bony wall, and the novocaine is slowly injected.

The lids are separated and held back by the lid retractor. The eye ball is held stationary by the assistant who firmly grasps the bulbar conjunctiva 5 mm. below the cornea with small forceps. The corneal puncture is made 1 mm. above the horizontal diameter of the cornea. The knife should traverse the thickness of the cornea in the direction of its radius of curvature, keeping the blade parallel to the iris. The incision is made by a see-saw motion upward and backward toward the sclera finishing with a large conjunctival flap that is not completely severed until sutures have been placed in position for tying. The sutures are placed one on either side of the flap and anchored to the bulbar conjunctiva.

The iridectomy is made by grasping the iris with small forceps and cutting it with De Wecker scissors.

The tip we use for lens extraction is Green's modification of the Barraquer instrument. This tip, which is so constructed as not to damage the eye, is placed on the inferior margin of the lens, being careful not to catch the iris. The operator must be sure that the tip is held gently but firmly against the lens surface, because of the slight danger of producing a backward displacement of the lens into the vitreous. When the instrument is properly placed the suction machine is turned on. The machine must be so regulated as to create a vacuum of twenty-five to twenty-seven inches of mercury. A very gentle, zigzag motion is employed to break the zonules away from the suspensory ligaments. A very slight upward tug made by the surgeon indicates whether this has been accomplished. After the zonules have been separated the lens is carefully and slowly turned so that the posterior surface is now anterior and the portion with the tip attached is posterior. This is done in all cases except when the patient is restless and unduly nervous. In this event the lens is extracted as it lies in its natural position. By lifting very gently the lens with the capsule is delivered through the corneal incision. During the entire procedure the flap has been held up by the assistant. The toilet of the iris, a very important maneuver, is carefully attended; the sutures are tied firmly and the operation is completed.

The next steps are routine measures to lessen the chance of infection. Any accepted method is satisfactory. We prefer bichloride ointment 1:3000. The eye is bandaged and no further treatment is instituted for 48 hours when the bandage is removed and the eye is irrigated with 10% argyrol and a solution of boric acid. Two per cent atropine is instilled, followed by the bichloride ointment and a bandage reapplied. This same procedure is carried out each forty-eight hours until four separate dressings have been applied.

The sutures do not have to be removed if they were tied tightly at the time of operation. Tie them firmly and they will cut themselves out.

COMMENT

We commend heartily this excellent paper by Dr. Geisenberger of Natchez, associate of Dr. L. S. Gaudet, and hope that it will serve as a stimulus for other Mississippi ophthalmologists to write for the national ophthalmological literature.

We were surprised in Dr. Geisenberger's history of the development of this technique that the modification of Dr. Theo Dimitry was not mentioned. Dr. Dimitry, Professor of Ophthalmology at L. S. U., has devised a small instrument, manufactured by V. Mueller, which furnishes an excellent suction apparatus without the hazard of large and cumbersome machinery. The reviewer has had no experience with either the Barraquer or the Dimitry modification and therefore is subject to the criticism of being an arm-chair detective in commenting upon these methods, but he feels that this newer instrument should not be overlooked. Dr. E. H. Coachman, prominent Oklahoma ophthalmologist, secretary of a correspondence group of the younger men, is very enthusiastic about Dimitry's method and has used it successfully in a number of cases.

However, our experience in cataract surgery leads us to voice an opposing view on certain of the technical points mentioned in Dr. Geisenberger's paper: (1) He states that 10 per cent cocaine does not cause desquamation of the cornea; our experience has been that even a 4% solution does, but we used it nevertheless, because this untoward effect is not permanent. By no means do we say that 10% causes a permanent desquamation of the surface. It seems most likely that it does cause a longer lasting desquamation and a weakening of the cellulous structure beyond that of the 4% solution; (2) local analgesia is obtained by the injection of novocaine deep into the orbital cavity; most possibly such a procedure would fail to affect all of the fibers of the facial nerve which may be reached either by peri-orbital injection into the obicularis itself or by the injection of the nerve near its exit from the cranial cavity at the mandibular joint, the latter being given personal preference; (3) bichloride mercury ointment is used in the eye after the completion of the operation in an effort to lessen the chance for infection; our experience has been that the time for the use of the antiseptic is before the eye is opened so that if any bacteria are present, they will be removed or their effect nullified at this time; (4) we do not use sutures in cataract extractions, believing such steps unnecessary, but if we did, we would hardly believe our own ability to be so excellent that we might tie the sutures to the correct degree of tension so that they will cut themselves out at the right time. The essayist did not say when they came out, but it is presumed that this occured on the eighth post-operative day; we would feel that they might come out in some instances on the first day, or that they might not come out until the ninth day. We also would subscribe to the belief that the help that they render, if they came out too soon, would not suffice for the necrosis that tightly tied sutures must, of necessity, cause; (5) in reporting the case histories that accompany his article, Dr. Geisenberger states his final results satisfactory. Knowing Dr. Giesenberger personally, we would assume that this means a high degree of visual acuity, but evaluation of this method would be easier if the amount of vision on the standard testing chart, with probable correction, were given.

The Present Status of Roentgen Treatment of Sinus Infections, Whitmer B. Firor and Charles A. Waters, The American Journal of Roentgenology and Radium Therapy, Vol. 42; No. 6, page 857.—

The authors have reviewed the efforts of roentgenologists and pathologists in the roentgen treatment of sinus infections since its beginning in 1916. The results are most gratifying and there is a plea in their paper for closer co-operation among the otolaryngologists, internists and roentgenologists. They point out there is in the event of an unchanged case no contraindication for further surgery. Cases must be selected. No acute cases are treated and only those which fall under the classification of sub-acute and chronic cases must be considered. The allergical sinusitis must be eliminated, as also the atrophic sinus. The changes produced are that of increased number of macrophages, and an early destruction of lymphocytes.

Comment

Sufficient work has been done in this field to win its approval by all roentgenologists and otolaryngologists. In one series of one hundred cases 31% were cured, 50% improved and only 19% unchanged. We have, for a long time, refused treatment of these cases but now feel sufficient work has been done to justify this procedure.

— K. O. S.

OBSTETRICS AND GYNECOLOGY

Newer Concepts of Blood Coagulation and the Control of Bleeding, Edward A. Schumann, Amer. Jr. Obs. & Gyn., 38:1002, 1939.—

The element of coagulation time of the blood is the prime factor in the control of hemorrhage. The reduction of clotting time is of great value in hemorrhage of capillary or venous type and investigators have studied many substances with that end in view. Horse serum, moccasin venom, cephalin and other agents have been used to shorten clotting time with more or less uniformity in their action.

Steinberg and Brown prepared extracts from purse, wood sorrel beets, oxalis, citrus fruits, alfalfa, etc., which were biologically assayed in rabbits, a unit being the minimum amount of material that will reduce the coagulation time of a five-pound rabbit 50% fifteen minutes after intravenous injection. Similar extracts were also prepared from placenta, cord blood, spleen, liver and bile. From this extract crystals were obtained which possessed most of the clotting power of the extract. These crystals were identified as oxalic acid. Solutions were prepared and found to have the same power to reduce coagulation time in rabbits as the extract themselves. A titrametric test for oxalic acid in blood of humans revealed a normal value of 5.5 to 7.5 mg. per 100 cc. Elevation of clotting time was accompanied by a fall in blood oxalic acid and reduction in clotting time by a rise in oxalic acid of the blood.

The exact action of oxalic acid in the physiological process of blood clotting is still problematical but it would seem that it acts as a catalyzer and adds to the formation of calcium, platelets and tissue juices in the formation of thrombin.

The extract from certain plant substances containing as its principal active agent oxalic acid, possibly with the little understood vitamin K, has been put on the market under the name of koagamin, a sterile solution for intravenous and intramuscular use. The oxalic acid content is 1 mg. per cc. and the usual dose is 3 cc. intravenously followed by 2 cc. intramuscularly at intervals of from 3 to 4 hours. The effect on coagulation time is apparent after ten or fifteen minutes and lasts for about eight hours. Much larger doses have been given with no ill effects. Koagamin has been extensively used in the treatment of hemorrhage of various origins, hematemesis, bleeding gastric ulcers, jaundice, hemoptysis, hematuria, epistaxis, hemophilia, melena neonatorum and other forms of bleeding with gratifying results.

The author has been especially interested in the use of this product in the management of hemorrhage in obstetrics and gynecology. In hemorrhagic disease of the newborn it has proved highly efficacious. In postpartum hemorrhage and in placenta praevia, its action has been satisfactory but more difficult to evaluate.

If used in plastic operations the field of dissection is almost dry in comparison with the usual venous ooze seen in these cases. In uterine bleeding, either of the functional type or the bleeding from fibroid tumors, koagamin exerts a definite effect.

At the present time the entire staff of the service is most enthusiastic concerning the use of this new drug. It has been given to over 1200 patients, often in repeated doses. No deleterious effects have been observed.

Comment: Oxalic acid has long been considered an anticoagulant rather than a coagulant, advocated in the control of bleeding. Yet our ideas are constantly changing as the result of research. The clinical application of the findings of Steinberg and Brown by such an eminent and conservative man as Dr. Schumann demands our serious consideration. I would like very much to have some of this material to try in my next serious hemorrhage.

The Treatment of Uterine Prolapse, H. W. Johnston, Surg., Gynec. and Obst., 69:809, 1939.—

Uterine prolapse is a purely vaginal occurrence. The author discusses the supporting structures involved in prolapse as well as the usual accompanying cystocele and rectocele. The occasional presence of a hernia of Douglas's pouch should cause one to be ever on the alert. Failure to recognize the associated lesions in cases of prolapse are often the causes of disappointment and necessitates another operation.

For the aged with minor degree of uterine prolapse and a cystocele the interposition operation is useful. Vaginal hysterectomy by the Mayo technic is advocated when the uterus needs removing at the same time. For the old and feeble when the question of further coitus can be forever answered in the negative LeFort's operation is recommended. The Fothergill operation is the most useful and should always be accompanied by a perineorrhaphy and bladder advancement when cystocele is present.

Comment: The value of this article lies in the excellent illustrations with descriptions of the Fothergill operation and the author's technic in fashioning the cervix and the anterior cervical flap. Those doing reconstructive gynecological surgery will profit by a study of these most excellent illustrations.

— J. F. L.

PEDIATRICS

The Treatment of Pneumonia in Children, Zahorsky, John: Texas State Journal of Medicine, 35:414 (October) 1939.—

"As such a great variety of bacteria cause pneumonia in young children, a careful bacteriological study is requisite for serum treatment. Unfortunately the bacteria found in the upper respiratory tract do not always represent the causal micro-organisms found in the lung. Furthermore, by typing the sputum carefully several varieties of pneumococci may be found in the same case. . . . Nevertheless, a laryngeal or a pharyngeal swab should be made and the pneumococcus, if found, should be typed. This might be done repeatedly and after one or more days of observation the conclusion reached that a specific pneumococcus is present in the lung and a specific serum is indicated.

"In cases of broncho-pneumonia, primary and secondary, this bacteriological diagnosis has become almost a necessity since the advent of the sulfanilamide therapy. We want to know if a pneumococcus and what type, or a streptococcus and what variety, are present in the bronchial secretion. Only then can we rationally decide whether to use serum or sulfanilamide. In hospital practice we must accept the maxim: Every suspected case of pneumonia requires a bacteriologic diagnosis."

"In spite of the efficacy of the serum treatment several objections may be listed: (1) It is very expensive and complicated; (2) It necessitates hospitalization which is also expensive; (3) Not many practitioners have the skill to type the pneumococcus even by the simple Neufeld method; hence, the laboratory and not the physician becomes the guide; (4) there is often an uncertainty from the laboratory reports which specific serum to use; (5) Children living in rural districts will rarely receive the benefit of this treatment; (6) Sensitization to horse serum or rabbit serum is inevitable. Consequently, the pediatrician cannot grow very enthusiastic over the serum treatment, which necessitates the selection of one remedy among 32 and the choice may be wrong. Expensive and complicated procedures are rarely successful in pediatric practice. Whether or not the mortality of pneumonia can actually be reduced with serum therapy cannot be stated at present.

"We welcome the new treatment by sulfapyridine, which promises as much as the serum treatment and does not possess so many objectionable qualities as the serum . . . The response to the treatment is very prompt and sequelae are rare. The mortality is less than 1 per cent. Even in the secondary bronchopneumonia in infants following whooping cough the death rate is very low.

"It is hardly necessary to point out the clinical advantages of sulfapyridine compared with the specific pneumonia serum. The treatment may be begun promptly on the appearance of suspicious pneumococcic symptoms and the sputum need not be typed. The home treatment of this disease will replace the expensive hospitalization and serum therapy. The practitioner will again depend on his own clinical judgment rather than the figures from the laboratory.

"In the hospital the procedure should be more exact. The child with suspected pneumonia should submit to the usual routine examination, including leukocyte counts, bacteriologic examination of the sputum and blood and roentgen studies of the lungs. The sulfapyridine treatment is begun at once, and if in two days the expected remission in the symptoms does not occur, the specific serum for the type of pneumococcus found is injected . . . The serum treatment as an adjunct to sulfapyridine will retain a permanent place in the therapy of pneumonia."

As to dosage of sulfapyridine, the writer believes one-half grain to the pound of body weight as the daily dose is ample. "The study of the blood concentration of the drug is feasible in a hospital only. The practitioner will have to work out some clinical criteria which will guide him in the home."

COMMENT

The treatment of pneumonia in children is always an interesting subject to any practitioner of medicine. At this season of the year when pneumonia is more prevalent it should be interesting to review an abstract by one of the older leading pediatricians of our country. Dr. John Zahorsky's experience with the use of both serum and sulfapyridine justifies a careful reading and consideration of the above article. My own experience and results with the use of sulfapyridine in the treatment of thirty-four cases of pneumonia in infants and children, has been about the same as that of many other men who are devoting their time to pediatrics. Sulfapyridine has quite well revolutionized the treatment of pneumonia. It is my experience which is also borne out by Drs. John Zahorsky, of St. Louis, and Charles Hendee Smith, of the Bellevue Hospital in New York, that, when we first began the use of sulfapyridine, most of us gave it in excessive doses, and over too long a period of time. We now find that smaller doses ordinarily continued for not over forty-eight hours are sufficient for most cases.

It has recently been observed that the new rabbit serum may be given intramuscularly with little difficulty and with practically no liability to serum reaction. Its use is suggested in selected cases and especially in those that do not readily respond to sulfapyridine treatment.

— H. F. G.

PUBLIC HEALTH

THE PHYSICAL EXAMINATION OF GROUPS, Robert W. Buck, New England Jour. Med., v. 221: 883-887, 1939.—

Dr. Buck points out that only a generation ago a person rarely ever submitted himself to medical inspection unless he was applying for life insurance. Today, by contrast, he may be called upon to do so for numerous reasons: when contemplating marriage, entering college, medical school or naval aviation, applying for a barber's or automobile driver's license, or simply as a hygenic duty.

The number and variety of groups requiring special types of physical examination are constantly increasing. If these examinations are to serve their purposes adequately it is necessary for the examining physician to understand clearly the results which it is hoped will be accomplished, and to consider carefully the means best adapted to attain them.

With modern-day living, there has come increasing intercommunication among large numbers of people. As parts of large groups, they affect the functioning of these groups, and certain aspects of their health which do not seriously affect them as individuals may definitely affect the functioning of the groups or even endanger the health of large numbers of other people.

The functions and purposes of the group examination are different from those of the individual physical examination. Just as the purpose of the latter is diagnosis as a guide to treatment, so the purpose of the group examination is prognosis. In the individual doctor-patient relation the search for a diagnosis leads the examiner to concentrate his attention on a possible disease. Most group examinations, on the other hand, deal with presumably healthy persons, and here the object of attention is the less tangible factor of the individual's capacity to withstand the strain of a disease or of the special hazards incident to a given occupation. A knowledge of pathology is necessary for a correct diagnosis: a knowledge of physiology, or the normal range of human capacity, is necessary for a correct prognosis, in the sense mentioned.

A survey of group examinations shows that the main fields in which need for them has developed are: life, accident and health insurance; public services, such as the Army and the Navy, police and fire departments, railways and air services; industrial medicine; and public health and preventive medicine. Practically all such examinations start at the point of determining physical fitness, and in this respect a more comprehensive definition is needed of "physical fitness." Dr. Buck calls attention to the fact that until group examinations have attained a far higher degree of efficient selectivity than they now possess, a certain amount of injustice is likely to be involved in attempts to maintain rigid standards based on their results. Surely no one type of health examination can be devised which will properly evaluate the health hazards of any individual. The dangers confronting the infant and child are not identical with those faced by the middle-aged. Whether tuberculosis examinations, cancer examinations should be advocated instead of "health" examinations is a matter for consideration. At any rate it is possible to foresee the types of routine physical examinations likely to be developed to a point of greater efficiency. Such are examinations of the baby and the pre-school child, of public-school pupils and of college students, groups of which each has its own health hazards and therefore requires a different emphasis in routine inspection.

Dr. Buck emphasizes, and I heartily concur, that these matters are of growing importance. To conduct the examinations efficiently, there should prevail the same spirit and the same systematic caution as is employed in the practice of diagnostic and therapeutic medicine. It is my belief that through the efficient performance of physical examinations, the physician renders to the community one of the most valuable services which medical science has designed.

— E. L. W.

SURGERY

THE CLINICAL USE OF SULFAMETHYL THIAZOL IN INFECTIONS CAUSED BY STAPHYLOCOCCUS AUREUS: PRELIMINARY REPORT, W. E. Herrell and A. E. Brown, Proceedings of The Staff Meetings of the Mayo Clinic. 14:753-758, November 29, 1939.—

Experimentally it has been shown that sulfamethyl thiazol is more bacteriostatic to cultures of staphylococcus aureus than is sulfanilamide, sulfapyridine and sulfathiazol. Similar observations were made on mice.

In a fulminating septicemia in which the offending organism was staphylococcus aureus secondary to a wound infection and in which there were one hundred colonies of staphylococcus aureus to the cubic centimeter in the blood stream culture, sulfamethyl thiazol was given a trial. An initial dose of 2 grains was given and repeated in four hours and then one gram was administered every four hours. In twenty-four hours there was dramatic improvement and in forty-eight hours the blood culture was negative and in five days the temperature was normal. In seven days the patient was allowed to sit up.

During the administration of the drug there were no toxic symptoms and no alteration of the blood picture whatsoever. Further observations will be necessary to determine any delayed toxic effect.

Clinical and Experimental Experiences in the Surgical Treatment of Hypertension, Loyal Davis and M. H. Barker, Annals Surgery, 110:1016-1036, December, 1939.—

The majority of the hypertensive patients observed by the authors responded favorably to the administration of potassium sulphocyanate as shown by a decrease in the blood pressure and relief from the symptoms noted. However, there was a small group of patients who were resistant to this therapy.

Experience has shown in these resistant patients that bilateral section of the splanchnic nerves subdiaphragmatically alone has failed to alter the blood pressure and blood chemistry findings after this operation; however, it was found in four patients that they then responded to sulphocyanate therapy. The exact mechanism of the observation still remains to be explained.

The Combined Use of Zinc Peroxide and Sulfanilamide in the Treatment of Chronic, Undermining, Burrowing Ulcers Due to the Micro-Aerophilic Hemolytic Streptococcus, F. L. Meleny and H. D. Harvey, Annals Surgery, 110:1067-1094, December 1939.—

By careful anaerobic cultures it has been found that the micro-aerophilic hemolytic streptococcus was the offending organism in observed chronic undermining, burrowing ulcers.

The successful treatment of these wounds with zinc peroxide depends on obtaining a proper supply from a specified source, close contact with the infected area and prevention of evaporation.

In cases treated by sulfanilamide prior to zinc peroxide no improvement was noted. Good results were recorded when the two were combined or the sulfanilamide was given following zinc peroxide therapy.

— W. H. P.

State Board of Health

FELIX J. UNDERWOOD, M.D.

TYPHUS FEVER IN MISSISSIPPI

With typhus fever decidedly on the increase in Mississippi, Dr. Geo. E. Riley, assistant epidemiologist, urges that physicians be on the look-out for this disease, and calls attention to a few observations he has made.

The rickettsial diseases—typhus, Rocky Mountain spotted fever, and tsutsugamushi—are so closely related that they are considered as a single group, of which typhus is the type disease. The study of this group of diseases is further complicated by the division of typhus into two forms—the classical European or "epidemic" louse-borne form, and the milder "endemic" flea-borne form with which we are concerned in Mississippi.

Prior to accurate clinical differentiation between typhus and typhoid, the extent of cases of endemic typhus in Mississippi cannot be determined, although there have doubtless been more cases than realized. Since about August, 1935, the State Hygienic Laboratory has done routine Weil-Felix reactions on all blood culture specimens. This has been largely responsible for the recognition and diagnosis of the 153 known cases of typhus in Mississippi. By this, it is meant that the disease, in most instances, was not even suspected until the report, "Weil-Felix Reaction Positive for Typhus" was made by the laboratory. The following table reflects the increase of this disease since 1933:

1933	1
1935	6
1936	18
1937	30
1938	42
1939	56 to Dec. 21
Total	153

The rat flea, X. cheopis, is the most common vector of endemic typhus, it being transmitted from rat to rat and from rat to man. Typhus is not transmitted from man to man, but it should be borne in mind that should it occur in a lousy population, it might by transfer through lice become epidemic in character. The "epidemic" or louse-borne typhus has existed in Europe and Asia for many centuries afflicting great numbers of people among the lower strata of society, and although the disease has been introduced into this country several times by immigrants, it apparently has never gained a permanent lodging here.

About 2,000 cases of and 135 deaths from endemic typhus occur in this country each year, mainly in the South Atlantic States and along the Gulf Coast. About half of the reported cases occur in Georgia and 15 per cent in Alabama. The disease has been spreading inland and northward from the Atlantic seaboard and Gulf Coastal region, with the white race being attacked from 7 to 10 times as often as the colored.

The disease is most prevalent during summer and fall months and has an incubation period of from 12 to 14 days. The onset is usually abrupt, with headache, chill, photophobia, conjunctivitis, sore throat, cough, and rapidly rising step-like temperature which reaches a plateau in from 3 to 6 days. Almost invariably the rash appears on the fifth day, being a pinkish to dull red macular eruption which usually remains for only a few days. It is first noticed on the upper abdomen, or lower chest, and gradually extends to involve the trunk, the flexor surfaces of the arms and forearms, and sometimes the legs, but not the palms, soles, or the face.

The fever continues for 12 to 16 days and usually terminates by crisis on the 14th day. The Weil-Felix reaction usually becomes positive after the first week, but may be delayed until the 12th, 16th, or even the 20th day after onset. Marked weakness and exhaustion characterize the convalescent period which, as a rule, is long and distressing. The deaths ascribed to typhus in Mississippi have been due to sudden collapse (acute dilatation of the heart) apparently from over-exertion during convalescence. The disease itself causes very few deaths. The control of typhus is based upon: (1) practical epidemiology, (2) education, (3) clean-up, (4) anti-rat campaigns, and (5) rat proofing.

MISCELLANEOUS NEWS

At the annual convention of the Mississippi Public Health Association, held in Jackson, December 6-8, Dr. W. H. Cleveland, director of the Lee County Health Department, Tupelo, was elevated to the office of president of the association to serve during 1940. Miss Opal Regan, advisory nurse of the State Board of Health, was unanimously elected president-elect by the membership of the association.

* * * *

The Tate County Board of Supervisors at their regular December meeting appointed Dr. Chester Farmer as director of the new full-time County Health Department, organized for that county on January 1. Dr. Farmer is a native of Mendenhall. He graduated from the University of Tennessee Medical School and interned at the John Gaston Hospital in Memphis. He has recently served as relief health officer in the Bolivar County Health Department and also has been associated with Dr. T. K. Chandler as assistant in the Tunica County unit.

* * * *

Dr. T. K. Chandler, director of the Tunica County Health Department; Dr. L. H. Eubanks, director of the Holmes County Health Department; and Dr. B. Alvis Stafford, director of the Sharkey-Issaquena Counties Health Department, will attend the short course in public health for county health officers at Vanderbilt University, beginning January 12, 1940.

* * * *

Dr. J. H. Hines, director of the Madison County Health Department and Dr. Andrew Hedmeg, director of the Adams County Health Department, have returned to their respective counties after completing courses of postgraduate instruction in public health and venereal disease control at Vanderbilt University.

* * * *

The Medical Library has acquired a photostatic copy of the JOURNAL OF THE MISSISSIPPI STATE MEDICAL ASSOCIATION, vols. 2-3, 1898-1900, which include the transactions of the association for those years together with the papers presented. This is an important addition to the Library's files of Mississippi medical history, completing the Transactions of the State Medical Association from 1850 to date. Physicians consult these records frequently in tracing medical developments and find them most helpful.

RADIO CALENDAR
WJDX, 9:00 A.M.
January-February, 1940

"That Awful Cold"—Dr. B. O. Garner, Director Adams County Health Dept., Jan. 6.

"Housing and Public Health"—Dr. Felix J. Underwood, Jan. 13.

"Maternal Health and Supervision in a Rural District—Dr. J. A. Sproles, Director Amite County Health Dept., Jan. 20.

"The Fight Against Infantile Paralysis"—Dr. Felix J. Underwood, Jan. 27.

"New Weapons in the Pneumonia Fight"—Dr. A. L. Gray, Director Preventable Disease Control, Feb. 3.

"Narcotics, A Short Cut to Destructive Citizenship"—Dr. Felix J. Underwood, Feb. 10.

"The Economic Value of Syphilis Control"—Hinds County Health Dept., Feb. 17.

"New Objectives in Public Health"—Dr. J. P. Ward, Director Washington County Health Dept., Feb. 24.

MEDICAL LIBRARY

Mississippi State Board of Health

(Loans available to state physicians upon request).

NEW BOOKS RECEIVED

Baker, S. Josephine: "Fighting For Life." (an autobiography) N. Y., MacMillan Co., 1939.

Hauser, E. D. W.: "Diseases of the Foot." (Saunders '39).

Manson-Bahr: "The Dysenteric Disorders." (Williams & W. '39).

Pickles: "Epidemiology in County Practice." (Williams & W. '39).

Streicher, M. H.: "Proctoscopic Examination, Diagnosis and Treatment of all Common Types of Diarrheas." (Thomas '39).

N.O.P.H.N.: Manual of P. H. Nursing. (3rd ed., Macmillan '39).

Corner, G. W.: "Attaining Womanhood." (Harper, 1939).

Newman, Geo.: "Building a Nation's Health." (Macmillan '39).

Hopkins, Ed S.: "Elements of Sanitation." (Van Nostrand '39).

Haggard, H. W.: "Man and His Body." (Harper, 1939).

McLester, Jas. S.: "Nutrition and Diet in Health and Disease." (Saunders '39).

Kudo, R. R.: "Protozoology," 2nd ed., (Thomas, 1939).

Kurtz & Edgerton: "Statistical Dictionary of Terms and Symbols. (Wiley '39).

Olson, L. M.: "Improved Equipment in Home Care of the Sick." 3rd ed., (Saunders '39).

Park & Williams: "Pathogenic Microorganisms." (Lea & F. '39).

"New & Nonofficial Remedies," 1939 (A. M. A.)

Graham, Harvey: "The Story of Surgery." (Doubleday, D. & Co.)

Brauer, J. C.: "Dentistry for Children." (Blakiston's '39).

Moulton, F. R.: "Mental Health." (Am. A. Adv. Sci. '39).

Turner, C. E.: "Personal and Community Health." (Mosby '39).

Corbin, Hazel: "Getting Ready to Be a Father." (Macmillan '39).

(NOTE: Books may be mailed to any point in the state for 1½c a pound).

IN MEMORIAM

(Dr. L. A. Barnett, 1886-1939)

Resolution

WHEREAS, Only three days ago, or more particularly December 5 at 4:00 A.M., **our** highly esteemed and much beloved co-worker, Dr. L. A. Barnett, was called from this earthly abode to a better home on High, and

WHEREAS, He has faithfully performed his duties and served his fellowmen through many years in the capacity of a family physician and a loyal health officer, and

WHEREAS, He was an active member of this Association and displayed keen interest in its success, and

WHEREAS, His kindly nature and friendly attitude made for him a host of friends in every walk of life,

THEREFORE, Be it resolved by the Mississippi Public Health Association in convention assembled that we deeply deplore the untimely passing of our beloved friend and fellow laborer, and

BE IT FURTHER RESOLVED, That this Association tender its deepest sympathies to the bereaved family in their loss of husband and father; and that the secretary is hereby directed to forward to the family and to the Greenwood paper a copy of this resolution.

This the Eighth Day of December, 1939.

Ole Miss Medical News

A new addition to the faculty of the University of Mississippi School of Medicine is Dr. David S. Pankratz who replaced Dr. A. R. Buchanan as professor of gross anatomy. Dr. Buchanan recently resigned to assume a similar position with the University of Colorado School of Medicine. Dr. Pankratz was until recently associated with the University of Tennessee School of Medicine, Memphis, Tenn.

The faculty of the University School of Medicine recently gave a program for the Clarksdale and Six Counties Medical Society at Clarksdale, Mississippi. The following appeared on the program:

Dr. R. M. Moore—Mortality in Appendicitis.

Dr. D. S. Pankratz—Influence of Barbiturates on the Gravid Uterus.

Dr. J. B. Looper—Treatment of Narcolepsy.

Dr. V. B. Harrison—Diagnosis of Gonorrhea.

Dr. J. R. Simms—Conservative Treatment of Pelvic Inflammatory Disease.

Dr. E. V. Bramlett—Leucorrhea.

Dr. W. F. Potter—Cardiac Physiology.

Dr. R. P. Walton—Pharmacology of Cardiac Drugs.

Dr. Harry Beckman, professor of therapeutics, Marquette University School of Medicine, addressed the students of the University of Mississippi School of Medicine recently on the subject, "Recent Advances in Chemotherapy."

COAHOMA COUNTY MEDICAL SOCIETY AND CLARKSDALE HOSPITAL MEDICAL STAFF

The meeting was called to order in the Board of Directors Room of the Clarksdale Hospital immediately after lunch on Wednesday, December 13, 1939. The minutes of the previous meeting were approved as read. Since we had a special invitation from the superintendent of the hospital, who served us a delicious lunch, the society went on record to send a letter to the superintendent of the board of directors of the Clarksdale Hospital thanking them for their hospitality. Also, the society went on record in voting for the Clarksdale and Six Counties Medical Society to meet jointly with the Delta Medical Society at Cleveland, Miss., to hear a symposium on tuberculosis.

It was brought before the society by Dr. Brandon that the druggists of our city have been selling sulfanilamide and sulfapyridine over the counter, and it was unanimously voted that the secretary send a letter to each druggist asking him to discontinue the selling of these drugs over the counter.

The newly elected officers for 1940 are:

President—L. H. Brevard.

Vice-President—T. M. Dye.

Secretary-Treasurer—J. L. Levy.

Relations Committee—W. H. Brandon, chairman; T. M. Dye, E. L. Wilkins.

There being no further business the meeting was adjourned.

Dec. 13, 1939 Julius L. Levy, M.D.
Clarksdale, Miss. Secretary-Treasurer.

COAST COUNTIES MEDICAL SOCIETY

At the regular meeting of the Coast Counties Medical Society, held in Biloxi on December 6, the following officers were elected for 1940:

President—B. B. O'Mara, Biloxi.

Vice-President, Harrison County—A. C. Hewes, Gulfport.

Vice-President, Jackson County—F. O. Schmidt, Ocean Springs.

Vice-President, Stone County—S. E. Dunlap, Wiggins.

Vice-President, Hancock County—C. M. Shipp, Bay St. Louis.

Secretary-Treasurer—D. L. Hollis, Biloxi.

Delegate—C. A. McWilliams, Gulfport.

Alternate Delegate—A. C. Hewes, Gulfport.

Medical Defense—D. G. Rafferty, Pass Christian.

Board of Censors—C. A. McWilliams, D. L. Hollis, and F. O. Schmidt.

December 11, 1939 D. L. Hollis, M.D.
Biloxi, Miss. Secretary.

DeSOTO COUNTY

Report of Southern Medical Association Meeting

The thirty-third annual meeting of the Southern Medical Association which convened in Memphis Nov. 21-24, 1939, is history. Many think that this meeting was one of the most successful; nigh 4200 were registered in all departments. The local entertainment was ample and the Memphis and Shelby County Medical Society deserves credit for handling the situation so well.

The public session held in the south hall of the Municipal Auditorium on Tuesday night was largely attended. Dr. Walter E. Vest, of Huntington, West Virginia, president of the Association, presided.

"Vitamin Facts and Fads, by Dr. Seale Harris, Birmingham, past-president of the Association. Whatever Dr. Harris says or writes is interesting. There is no one that we think more highly of than the esteemed speaker. The large crowd enjoyed the doctor's oration, though we think the joke in connection with Solomon's concubines was ill-timed. Dr. Harris said that the nations which provide their inhabitants with the most abundant supply of vitamins will win the war in Europe.

"Some of the Contributions of Medicine to Public Welfare," by Dr. Irvin Abell, of Louisville, Ky., past president of the Association and of the A. M. A. was a masterful address and oratorically given. There is no one better able to attend to the wants of a sick people than an educated physician. The doctor traced the work of the medical profession in its fight against epidemics. During the last three decades tuberculosis has decreased 66 per cent, influenza and pneumonia 24 per cent, measles 87 per cent and diphtheria 90 per cent.

In "Society's Debt to the Doctor," by Rev. Alphonse M. Schwitalla, S.J., Ph.D., Dean, St. Louis University School of Medicine, St. Louis, Mo., he said that doctors are not trade unionists and money grabbers but for the most part gentlemen of the highest order. We belong to the last order of practical knighthood and nobility obligates. He tells of the difficulty of selecting 100 candidates from a list of 1400 for his Freshman class.

Dr. Quitman U. Newell, of St. Louis, was named president-elect, deservedly; Dr. W. L. Williamson, general chairman, Memphis, was chosen as first vice-president. Dr. Arthur T. McCormack, of Louisville, Ky., is president.

On the occasion of the election night and the reports of officers we noted the constructive W. W. Crawford who was one of the organizers and a co-writer of the Constitution and an early president, the efficient Felix J. Underwood, also past president, the able and alert J. Percy Wall, president of our state association, the scholarly W. S. Leathers, of Vanderbilt, formerly president of the Mississippi and Southern associations.

We regretted the absence of our president-elect and our Councilor for the S. M. A., Dr. William H. Anderson, of Booneville. The doctor was quite ill from an infected hand and was confined to his bed at the Baptist Memorial Hospital. Dr. Anderson is editor-in-chief of the MISSISSIPPI DOCTOR. We hope for a permanent recovery and a continued activity in behalf of organized medicine

(I visited the doctor today; he is improving. Dr. Sanders, Mrs. Anderson and the nurses are giving him every attention).

Much was said and written about sulfanilamide, its widespread application to many diseased conditions. Dr. Gilbert Levy, of Memphis, said three million grains of this drug had been dispensed at the John Gaston Hospital during the past year and that it was running a close race with aspirin for general use. Drs. Willis C. Campbell and J. S. Speed, of the Campbell Clinic, have used this new drug with advantage in orthopedic work. "We believe," said the doctors, "that routine use of sulfanilamide will enable the average surgeon to close with impunity most of the compound fractures which he is called upon to treat."

The comparison of importance of the treatment with that of the use of sulfapyridine for pneumonia was made in a discussion of the paper by Dr. Speed. Sulfanilamide is a derivative of a coal tar dye which leaped into prominence about 1934 as a treatment for blood and bone infections and has since been used successfully in fights against a score of such ailments. From it sulfapyridine was developed. Dr. Speed further says, "From our clinical experience and experimental observations we conclude that the local implantation of sulfanilamide crystals in compound fractures not only tends to lessen the danger of infection but also that it does not perceptibly interfere with the union of the soft tissues of the bone."

Dr. Wm. D. Stinson, of Memphis, speaking on thiamin choride, commonly called vitamin B-1, has been highly effective in relieving the heart spasms due to failure of the esophagus, stomach and intestine to contract properly. Some violent, fear-creating pains can be eased by the administration of vitamin B-1, a common synthetic chemical also indicated in nervous disorders as delirium tremens, etc.

We attended the symposium in the south hall on headaches. The essayists had carefully prepared papers and we listened with interest. Drs. McCool, Chaney, Nicholas, Gotten and others were on the program. If these embattled scientists and any others can relieve this headache situation they will receive the grateful plaudits of an appreciative people and make this old world an easier, a safer and better place to live and departure therefrom more reluctant. A headache is the most disquieting, disconcerting and hellish invention of the satanic majesty. When questioning a patient about their ailments, when they state that they have no headache, regardless of their other troubles, they have much to be thankful for.

On the treatment of the ubiquitous malaria, we timidly hold to the opinion that quinine is the sine qua non, the others spoke otherwise.

In our humble opinion, "the only fly in the ointment" during the whole meeting was the music. Instead of playing something we love or something that we can learn to love, the orchestra gave us nothing but jazz and swing and that in the most blatant and noisy manner. The pianist played the same keys continually but energetically worked his pedals. In case he cared to lay off his piano, he could command a good contract on a contortionist's program.

"The knowledge of cancer prevention has not kept pace with that of other diseases, and for that reason cancer is the most dreaded disease that affects mankind," Dr. M. Y. Dabney, of Birmingham, editor of the Southern Medical Journal, said in Memphis while attending the Southern Medical Association convention.

"Cancer has gradually risen from fifth place as the cause of death among women to second place—and is exceeded only by pneumonia.

"It is a sad fact that cancer is on the increase, not only because of an improved system of reporting the causes of death throughout the world, but because sanitation and preventive medicine have lengthened the span of human life so that there are more old people today than formerly.

"Cancer occurs in connection with the premature aging or actual aging of tissue cells. Hence, the more old people the larger number of cancer patients.

"It has been stated that if individuals lived long enough all would succumb to cancer."

Dr. Dabney said cancer may develop in any part of the body, and that it "stands a far better chance of being cured when it is in its beginning and has not spread from its original site."

To guard against cancer, he said, everybody should undergo a physical examination "from head to foot" at least once a year, and women over 35 should have their breasts and female organs examined every six months.

Dr. Dabney said that "it's no disgrace" to have cancer, that it does not result from "immoral living."

He urged the public to avoid the "so-called drug store treatment for cancer—because there is no drug that benefits cancer in any way."

Dr. Graham Asher, young University of Kansas City, Kan., scientist, today received first prize for the best scientific exhibit at the annual meeting of the Southern Medical Association at the Auditorium.

In competition with 85 other exhibits he was given the top award for his demonstration of a machine which visualizes the beating of the human heart on a fluorescent screen and keeps it visible for at least a quarter of a minute. With it physicians can diagnose heart conditions by watching a record of what has happened 15 seconds in the past. And, by the simple pressing of a lever, they can photograph any part of the continuous fluorescent film and keep it as a permanent record.

The heart constantly generates tiny electric currents which, when magnified 800 to 1000 times and made to move a beam of light, write a continuous record of the heart's condition in health and disease on the moving film in the form of tiny waves.

Dr. Asher has been developing the machine for more than five years and more than 50 of them are now in use throughout the United States. His only comment in receiving the award was that "it will help to call attention and interest to this method of diagnosing heart conditions."

In the main dining room of the Peabody Hotel on Thursday night the alumini of the University of Tennessee had their banquet. Dr. Alfred D. Mason was in charge. The occasion was a happy one; Dr. O. W. Hyman, administrative officer, spoke felicitously. On his way home after the banquet Dr. Hyman's car was struck by another car, but fortunately the good doctor escaped with slight injury.

Other alumni reunion dinners, fraternity luncheons and entertainments for the ladies were held at various times. The scientific and technical exhibits at the main auditorium were numerous and good.

The whole affair was splendidly arranged for and every part of it was excellent.

In mentioning the U. T. Alumni Banquet and other matters relating to the alumni, the fine and capable management of secretary Pat Haney should not be forgotten.

The gynecology section named Dr. J. F. Lucas, of Greenwood, as chairman for the ensuing year.

The second award of the association went to Dr. R. H. Rigdon of the University of Tennessee College of Medicine for his exhibit on inflammation and the flow of fluids through the tiny capillary blood vessels of the body.

Dr. Harvey F. Garrison, of Jackson, was chosen as chairman of the section on pediatrics. Thus the chairman and the section both are to be felicitated.

Nothing is more estimable than a physician who, having studied nature from his youth, knows the properties of the human body, the diseases which assail it, the remedies which will benefit it, exercises his art with caution, and pays equal attention to the rich and the poor. —Voltaire.

Rt. 4, Memphis, Tenn, L. L. Minor,
Dec. 17, 1939 County Editor.

NEWTON COUNTY MEDICAL SOCIETY

The Newton County Medical Society met in Decatur, Mississippi, on December 27, 1939, and elected the following officers:

Dr. Z. T. Hagan, President.

Dr. D. Stennis, Secretary.

Dr. R. P. Walker, Delegate to the Mississippi State Medical Association.

Dr. W. J. Pennington, Alternate.

Dr. D. Stennis, Censor.

—Dr. D. Stennis, Secretary.

SOUTH MISSISSIPPI MEDICAL SOCIETY

The South Mississippi Medical Society held its regular meeting at the Forrest Hotel in Hattiesburg, Thursday, December 14, 1939. After a business session the following officers were elected to take office in June, 1940.

President—Dr. B. T. Robinson, New Augusta.

First Vice-President—Dr. H. C. McLeod, Hattiesburg.

Second Vice-President—Dr. V. B. Martin, Picayune.

Secretary-Treasurer—Dr. V. C. Temple, Hattiesburg.

Medico-Legal Adviser—Dr. T. E. Ross, Hattiesburg.

Delegates and alternates to the State Medical Association were also elected.

The scientific program was a very interesting and instructive symposium on pneumonia, conducted by the following doctors from Jackson, Miss.:

Dr. T. E. Wilson—"The Diagnosing and Newest Methods of Treatment."

Dr. Robin Harris—"The Eye, Ear, Nose and Throat Complications."

Dr. Lawrence Long—"The Surgical Complications."

Dr. John Henthorne—"The Pathology."

Following the regular meeting the society was entertained by the Ladies Auxiliary at their annual Christmas party. Total attendance was 52.

—Van C. Temple, Secretary.

Woman's Auxiliary
TO THE
MISSISSIPPI STATE MEDICAL ASS'N

'DOCTORS' DAY' CELEBRATED BY MEDICAL AUXILIARY

Doctors' Day was celebrated by the medical auxiliary when the members entertained the South Mississippi Medical Society Thursday evening in the Venetian room of the Forrest Hotel at a buffet supper. The supper was held immediately following the doctor's meeting.

The Venetian room was decorated in red and white garlands, Christmas wreathes and candles, red bells and holly in tall floor baskets.

The service table, which centered the room, was covered with a Venetian lace cloth. A silver candelabrum with red tapers in a wreath of holly adorned the table. Mrs. H. C. McLeod served the Christmas pudding and Mrs. Van C. Temple poured the coffee. Sandwiches, nuts and candies were also served.

Music was played by Mrs. P. E. Smith during the supper. Following the menu Mr. and Mrs. Josef Oszuscik entertained with accordion solos. Christmas carols, under the direction of Dr. Nollie Felts, were sung by the assembly, with Mrs. Smith as accompanist.

Those attending the supper were: Dr. and Mrs. W. W. Crawford, Dr. and Mrs. C. C.

Hightower, Dr. and Mrs. Richard H. Clark, Dr. and Mrs. J. P. Culpepper, Jr., Dr. and Mrs. H. C. McLeod, Dr. and Mrs. S. E. Bethea, Dr. and Mrs. Earl Green, Dr. and Mrs. Nollie Felts, Dr. and Mrs. S. E. Busby, Dr. and Mrs. L. B. Hudson, Dr. and Mrs. P. E. Smith, Dr. and Mrs. Van C. Temple, Dr. and Mrs. R. T. Ratliff, Dr. H. L. McKinnon, Dr. J. A. Mead, Dr. Grady Cook, Dr. B. D. Blackwelder and Dr. T. E. Ross.

Dr. J. H. Newcomb, Dr. J. C. Gardner, Dr. E. M. Blunt, Dr. S. S. Key, Dr. G. S. Terrell, Dr. N. O. Tyrone, Dr. E. J. Mathis, Dr. J. W. Horne, Dr. V. B. Martin, Dr. J. E. Green, Dr. Tom Ramsey, Dr. J. C. Henthorne, Dr. Robin Harris, Dr. Lawrence Long, Dr. T. E. Wilson, Dr. A. S. Calhoun, Dr. N. V. Nickols, Dr. A. K. McMillan, Dr. R. J. Jones, Dr. J. N. Mason, Dr. B. T. Robinson, Dr. S. J. Dubose, Dr. L. L. Polk, and Dr. Joe McKinnon, were among the doctors who attended the medical meeting.

DR. AND MRS. BRAMLETT ENTERTAIN AT STAFF DINNER

On Wednesday before Christmas, Dr. and Mrs. E. S. Bramlett entertained at the annual staff dinner in their home on Jefferson Avenue in Oxford.

Christmas decorations were used throughout the house and the centerpiece was a crystal bowl of rosebuds surrounded with beautiful holly.

Bird and duck were the main item on the menu full of tasty Christmas delicacies.

In attendance were Dr. E. S. Bramlett, Dr. E. V. Bramlett, Dr. P. W. Roland, Sr., Dr. W. W. Phillips, Dr. C. S. Wilkins, Dr. S. O. Price, Dr. B. S. Guyton, Dr. Eugene Morrison, Dr. J. R. Simms, Dr. J. B. Looper and Dr. R. M. Moore.

The dinner was served by Miss Bertha Robinson and Miss Ruby McDougal of the nursing staff.

NORTHEAST MISSISSIPPI AUXILIARY

Entertained by the members of the Four-County Unit, the ladies of the Northeast Mississippi Thirteen Counties Auxiliary met at the cuontry club at Tupelo, December 12, for their Christmas meeting, Mrs. W. L. Orr, Plantersville, presiding. A holiday motif of holly, red candles glowing in crystal holders, and Christmas spangles imparted a festive mood to the guests and zest for the delicious luncheon which inaugurated the meeting.

Chief among the guests was Mrs. Hugh Johnston, of Vicksburg, president of the state organization, who brought a lovely message of greeting and inspiration to the group.

Mrs. V. B. Philpot, president of the Thirteen Counties Auxiliary, presided at the business session, which included the election of the following officers:

Mrs. Bernard Patrick, Corinth, president.

Mrs. H. F. Kellum, Tupelo, president-elect.

Mrs. V. B. Philpot, Houston, first vice-president.

Mrs. H. A. Stokes, Guntown, second vice-president.

Mrs. B. C. Tubb, Amory, third vice-president.

Mrs. E. K. Guinn, McCondy, fourth vice-president.

Mrs. Stanley A. Hill, Corinth, secretary-treasurer.

Mrs. J. Rice Williams, Houston, parliamentarian.

Mrs. Philpot was accorded a gracious expression of appreciation for her excellent and effective year of service.

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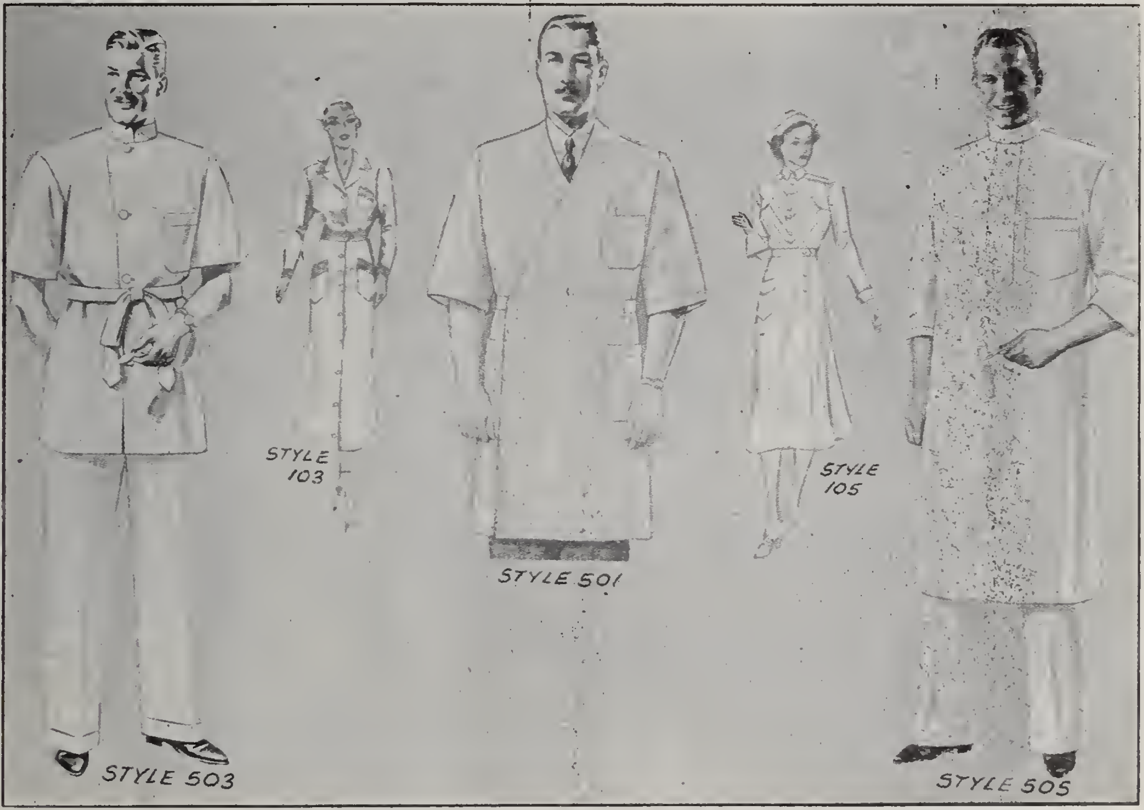
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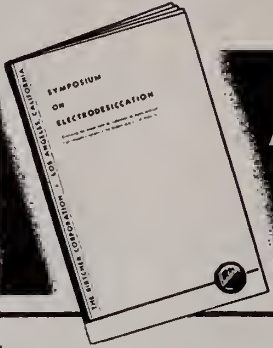
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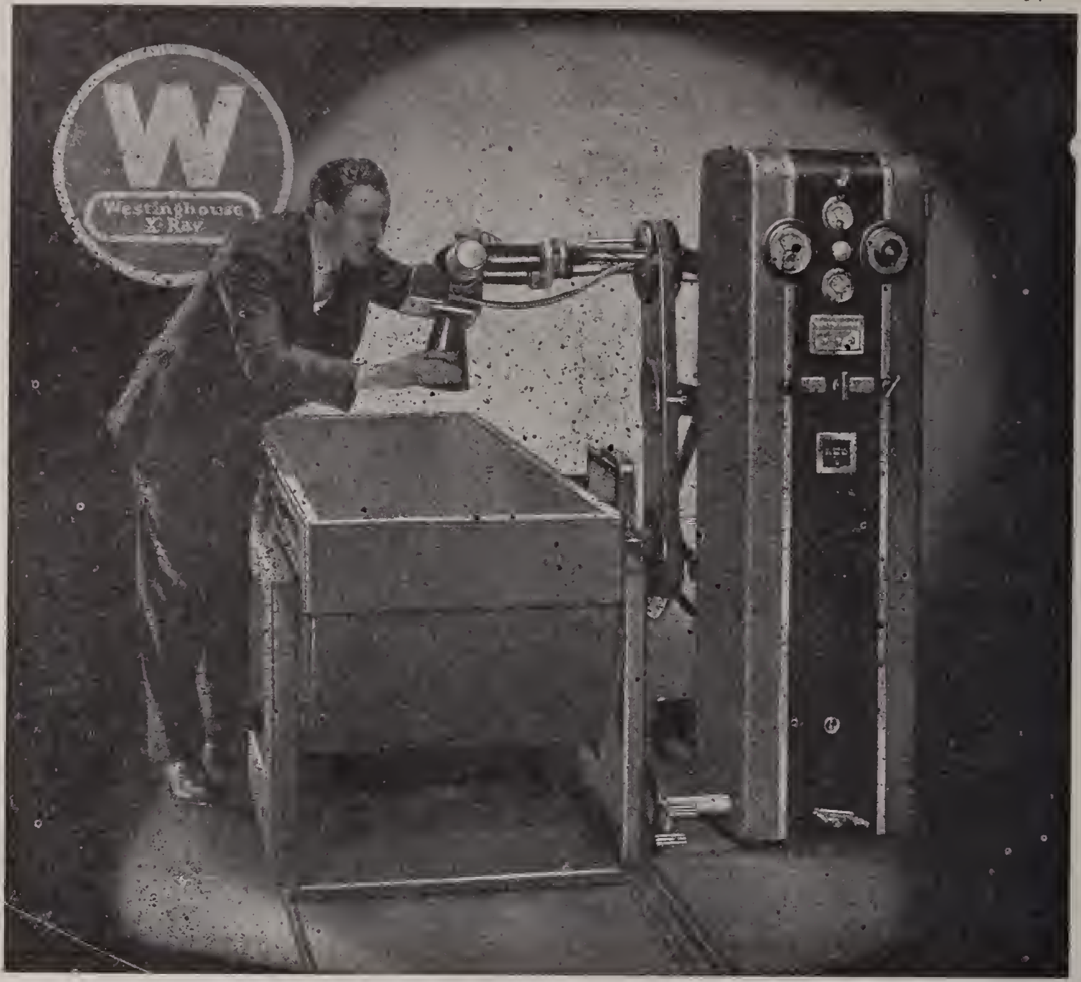

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The Thyrocardiac (Goiter Heart)

L. C. SANDERS, M.D.
MEMPHIS, TENNESSEE

BY THYROCARDIAC is meant the disturbance of the heart due to a toxic substance released by degenerative changes in a diseased thyroid gland.

This discussion will be confined to the study of the effect upon the heart of toxic substance from nodular goiter. In diffuse toxic goiter, in the stage of hyperplasia, the heart is markedly affected in both rate and rhythm. If the goiter is removed before degenerative changes occur, the heart soon returns to normal. This is not true, however, in nodular toxic goiter, because degenerative changes occur in the heart muscle often before toxic symptoms are recognized.

There is a definite sequence of events which occurs in the life history of toxic nodular goiter. In early life the thyroid gland attempts to adjust itself to functioning harmoniously with the other endocrine glands; or partaking too much or too little of something, it becomes the colloid goiter of adolescence. There being no anatomic change, spontaneous recovery is possible. If the enlargement does not regress with the passing of time, the goiter changes its shape, developing bosselations or nodules. During this period it is possible that neither physician nor patient can decide whether the goiter is toxic. The so-called nontoxic nodular goiters frequently pass directly to a cardiotoxic state without there having been compelling evidence of thyroid toxicity in the ordinary sense at any period of the disease. Nodular goiters usually appear at about the third or fourth decade of life. They are the result of previous abnormal changes in the gland during adolescence. These nodules may lie dormant for one or more decades of the patient's life span before degenerative changes begin and toxic symptoms become manifest. These nodules may be small, remain unnoticed by the patient and undiscovered by the physician on casual examination. The small goiters may become just as toxic in their effect as the large ones. This type of goiter may also be substernal and remain unsuspected unless pressure symptoms become manifest. On the other hand, many persons have prominent goiters and become accustomed to their presence, taking them as a matter of no consequence. This seeming neglect on the part of the patient in not seeking medical advice concerning the management of such goiters is responsible for many patients dying a cardiac death from the toxic effect of the degenerating goiter.

More treacherous still are those thyroid processes which, never reaching the clinical dignity of goiter, attract the attention of neither patient nor doctor until cardiopathies cause both to search for a cause. The clinical history is easy enough to trace when a palpable tumor is evident; but when a palpable goiter has not been discovered, even after the cardiac symptoms have become pronounced, the case is disconcerting. Sometimes it is necessary to make the diagnosis of a goiter heart from the nature of the symptoms together with the character of the cardiac disturbances.

Foss reported on 2000 consecutive goiter patients operated upon at the Geisinger Memorial Hospital. 42.5 per cent of the cases were toxic nodular, 89 per cent of which gave evidence of cardiac damage. 28.5 per cent were nontoxic nodular, and 54 per cent of these patients showed cardiac symptoms of varying degrees.

At the present time diseases of the thyroid constitute one of the most common conditions encountered in general practice. In our clinic we see many more patients with goiter than we do with peptic ulcer or diabetes. The reasons that many physicians see few goiters are that either they fail to question carefully their patients concerning the symptoms of toxic goiter, or they neglect to examine the thyroid gland for evidence of pathologic changes.

The chief cardiac symptoms associated with hyperthyroidism are increased blood pressure, dyspnea, orthopnea, and various disturbances in the rate and rhythm of the heart, particularly auricular fibrillation, sometimes flutter and even heart block.

An important group of thyroid patients in whom a correct diagnosis frequently is not made are those past middle life who have hypertension and heart disease without exopthalmus. Many of these patients have nodular goiter of several years standing and suffer from so-called masked hyperthyroidism. Examination of them usually reveals but slight indication of Graves' disease, but hypertension and evidences of cardiac involvement are quite pronounced even to the point of presenting the signs of congestive heart failure. Such patients are too frequently treated as cases of simple hypertensive myocarditis, with no attention paid to the thyroid as the primary cause. Consequently, they become permanently invalided because any form of treatment other than that directed toward the hyperthyroidism is completely futile.

A patient we have recently seen illustrates this fact quite clearly. A woman 72 years of age had been under the care of her physician for twelve years for hypertension and myocarditis. The usual treatment of rest, digitalis and vasodilators had not relieved her and her symptoms had gradually increased to the point of congestive heart failure when she came under our care. Examination revealed a thin, elderly woman whose average pulse rate was 120; blood pressure, systolic 220, diastolic 60; pulse pressure, 160. The heart was enlarged, rhythm irregular, with auricular fibrillation. The basal rate was plus 12, and there was marked weakness of the quadriceps muscles. The thyroid gland contained a small nodule which was not conspicious. The patient stated that this nodule had been present for forty years, but had never caused her any inconvenience. Our diagnosis of thyrotoxicosis with congestive heart failure was made on the basis of the presence of a nodular goiter, the high pulse pressure, the quadriceps weakness, and the failure of the heart to respond to rest and digitalis. Exopthalmus was absent, and the basal rate was not significant. This patient is one of many whose records we have in our files who had similar clinical histories and who had been treated for heart disease over long periods without the presence of thyroid disease having been suspected. Experience has proved that the only treatment of any value in such cases is that which is directed toward the relief of the hyperthyroidism.

The murmurs found in cardiac disease associated with hyperthyroidism are usually systolic in origin, are heard at the apex and often are the result of relative insufficiency. Such murmurs are frequently mistaken for those of primary heart disease, the most common error in diagnosis being that of mitral stenosis. All too frequently physicians treat patients for mitral valvular disease without recognizing the underlying obscure hyperthyroidism.

Eighty per cent of all patients who have congestive heart failure associated with hyperthyroidism develop fibrillation. It is now a recognized fact that toxic goiter can produce all the signs and symptoms of congestive heart failure, solely as the result of overtaxing a previously normal heart.

The face of the cardiotoxic patient wears a look of apprehension. It differs from the expression of nervous excitation, just as the look of the patient with cancer differs from that of one who has indigestion and fears cancer. These cardiotoxic patients also have in common an appearance of senility; of age far beyond their years. In the more advanced cases the increasing dyspnea with the resultant intensified distress and cyanosis may greatly distort the facial expression. When complete decompensation occurs with edema in the various tissues and cavities, the face does not become edematous. This makes it possible for one to exclude other types of dropsy, particularly that due to nephritis. Loss of weight is gradual but definite, although there may be little change in appetite. Increased body heat and nervousness to the point of excitability are common symptoms.

In a study of the primary cause of death following operation for toxic goiter, a significant finding is that a majority of the patients die of cardiac failure. This is evidence of a long standing, slowly progressive degenerative process in the heart muscle, and is direct proof that the toxic substance secreted by the diseased thyroid gland has a damaging effect upon the heart muscle.

DIAGNOSIS

The toxic nodular goiter is the type most commonly seen in practice. It should be suspected in all patients between the ages of forty and seventy who complain of cardiac symptoms. The presence of hypertension with a low diastolic pressure and a high pulse pressure is the rule, although in some cases toxic nodular goiter may be present when there is no variation from the normal pressure. The basal metabolic rate, when elevated, is a valuable finding, but many patients with a long standing degeneration of the thyroid tumor show a normal rate. Nervous tension, breathlessness, cardiac irregularities, loss of weight, quadriceps weakness and increased body heat are all common symptoms when cardiac changes are associated with toxic goiter. It must be remembered, however, that many women when passing through the menopause exhibit some of these symptoms, and a careful evaluation of the clinical history is necessary to exclude the presence of a toxic goiter in these cases.

Patients with hypertension are usually obese and stockily built. The diastolic pressure is high in proportion to the systolic, and cardiac disturbances are less common. In most cases there is no loss of weight, no tremor of the hands, no facial anxiety and no quadriceps weakness. In myocardial failure secondary to infections the usual picture is dyspnea, cardiac asthma, generalized edema, low blood pressure, a pasty skin and marked anemia.

The correct diagnosis of the thyrocardiac patient is not always easy and it may be necessary to use all the clinical facilities at our command in order to arrive at a correct conclusion. However, if physicians are careful to evaluate all the symptoms and signs, more patients with toxic goiters will receive a diagnosis early enough to prevent the heart muscle from becoming permanently damaged.

TREATMENT

Patients with non-toxic nodular goiters today present a major problem. It is definitely known that a large per cent ultimately become toxic. Just how long a patient can carry a nodule in the thyroid gland before evidences of toxemia develop, is unknown. It has been conclusively proved that toxic symptoms develop slowly, and it is believed that the first evidence of toxic absorption manifests itself in the heart muscle. If this is true, it follows that all patients with nodular goiter should be carefully and regularly studied for evidence of toxemia and for myocardial degenerative changes.

Throughout the medical profession there has been a tendency to treat goiters by the use of iodine. The time is now ripe to issue a warning concerning this practice in the treatment of any type of goiter, with the possible exception of the diffuse nontoxic goiter of adolescence. Not only does iodine have no curative value, but it is distinctly harmful if given over a long period of time. Experience has shown that the operative risk in those patients who have received iodine for a long time is much greater than in those who have not. In the presence of toxemia with increased metabolic rate, Lugol's solution is valuable only in preoperative preparation, and should be used for this purpose alone.

When nodular goiter becomes toxic the treatment is surgical removal of the gland as soon as possible after proper preoperative preparation. The longer operation is delayed, the more damage may occur in the heart muscle, and the less likelihood there is of a complete cure. If the goiter is removed when the first signs of cardiac disturbance occur, the heart is relieved of its toxic burden and returns to normal function. If the toxic goiter is allowed to remain until congestive heart failure has occurred, then not only is operation dangerous, but cure cannot be expected. The heart never returns to normal after degeneration has become well established.

Even when the patient is not seen until decompensation has become manifest, treatment may yet be carried out with benefit to the patient. Several weeks of complete rest, the use of digitalis and Lugol's solution, followed by thyroidectomy and then more weeks of rest may restore a badly damaged heart to a partially normal function. The prevention of such a patient becoming a permanent invalid, or dying a cardiac death, the recognition of and removal of the nodular goiter in its early stage of toxemia, is the duty of the medical profession.

Some physicians have advocated the surgical removal of any nodular goiter as soon as it is discovered, even though toxemia has not been proved. This may be a radical procedure, but at least it has some merit because it removes the possibility of the patient developing later in life a toxic goiter with its resultant cardiac complications.

In the final analysis, the treatment of patients with nodular goiter who have evidence of hyperthyroidism or symptoms referable to the heart, is the removal of the primary cause, namely surgical extirpation of the diseased thyroid gland.

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Hypertensive Cardiovascular Disease*

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THE SUBJECT which has been assigned me is a very large one, and it would be impossible to discuss all its phases in the time allotted. An effort will be made, therefore, to speak of the more practical aspects of the subject, especially in view of the fact, as I have been informed, that the audience is made up largely of the greatest and most useful group of the profession, namely, general practitioners of medicine.

We are often asked what constitutes high blood pressure or what is the dividing line between normal blood pressure and hypertension. This question cannot be answered dogmatically. It is fairly generally customary to consider a diastolic pressure of 100 mm. of mercury as the dividing line between normal and high blood pressure. This is reasonably true, but there are numerous exceptions. We may usually place more reliance on the diastolic than on the systolic pressure in the diagnosis of hypertension because the diastolic pressure is notably more stable and less easily influenced by exercise, excitement, emotional up-sets, et cetera.

The question is frequently asked whether the diastolic pressure should be recorded at the level at which the tone and pitch of the sounds change or at the level at which the sounds completely disappear. It is fairly conceded that the level at which the sounds change in tone should be considered the diastolic pressure. Usually this is about 10 mm. of mercury higher than the point at which the sounds completely disappear. Some clinicians believe, and I think with justification, that both levels should be reached, for example, 190/120-110. This certainly should always be done in cases of aortic regurgitation since there is frequently a very marked difference in the two levels in this condition, such as, for example, 240/70-0.

For the purpose of discussion, we may divide the hypertensions into two groups, primary and secondary. By secondary hypertension we mean those of known cause or associated with other pathologic conditions. Hypertension occurs in almost all cases of aortic regurgitation. This is the only one of the valvular heart diseases which is usually associated with elevated blood pressure. The hypertension we see in this condition is different from that ordinarily seen in that the systolic pressure is usually very high and the diastolic pressure very low, sometimes approaching zero. This is an exception to our former statement that the diastolic pressure is the criterion for the diagnosis of hypertension. This type of blood pressure, with the very high pulse pressure, is only seen in two other conditions, namely, thyrotoxicosis and neurocirculatory asthenia, but in these last two conditions, it is usually not so marked as in aortic regurgitation.

Hypertension of the secondary type may also occur in certain endocrine diseases, such as, thyrotoxicosis, tumors of the adrenal and pituitary glands and in neurocirculatory asthenia if this can be included, as some believe, in endocrine disturbances.

It is well-known also that hypertension almost always accompanies chronic nephritis.

Hypertension may or may not be associated with arteriosclerosis. It should be remembered that some of the severest cases of arteriosclerosis we encounter are in individuals with essentially normal or slightly elevated blood pressure. The hypertension associated with arteriosclerosis, if it is not accompanied by sclerosis of the arterioles, is characteristic in that the systolic pressure may be quite high and the diastolic pressure is usually normal or but very slightly elevated. This is another exception to the statement above that the diastolic pressure is the more reliable one in the diagnosis of hypertension.

The primary hypertensions are those in which the etiology is not definitely known. There are several synonyms for this disease, such as, essential hypertension, arteriospastic hypertension, arteriosclerotic hypertension and according to Volhard and Fahr's classification, benign and malignant hypertension. Some clinicians attempt to distinguish between essential and arteriosclerotic hypertension on a basis of lability of the blood pressure. It is my impression that such distinction is not justified since in the early stages of the disease, lability is usually present, whereas, as the disease advances the blood pressure tends to become more constantly elevated. It seems, therefore, that these are only different stages of the same pathologic process.

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While the actual cause of primary hypertension is not known, certain of the predisposing causes are generally recognized. It seems apparent, for example, that heredity plays a very important role in the etiology. Ayman found in studying 1,525 members of 277 families that the incidence of hypertension when both parents had normal blood pressure was only 3%; the incidence when one parent had hypertension was 28%; when both parents were victims of hypertension, the incidence was 45%. The age at which primary hypertension usually begins is the fourth decade, although in some instances it begins in the twenties and in others after the age of forty. It is much more common in individuals who are overweight. It generally occurs in individuals who have a nervous temperament and undoubtedly physical and mental strain and stress are predisposing factors of great importance. The role of other factors in the predisposition, such as infections, is less well understood.

From the standpoint of pathological physiology, evidence indicates that hypertension makes its appearance as a result of some pressor substance circulating in the blood with little or no histologic changes in the vascular system. What this pressor substance is and where it originates remains unknown. It has been demonstrated experimentally in dogs that if the afferent blood supply to a kidney is interfered with, a pressor substance will be manufactured in that kidney and extracts made of that kidney and injected into normal dogs will produce an elevation of blood pressure in the dogs so treated. During the stage of early hypertension, it is thought that arteriolar spasm occurs. As time goes on, the walls of the arterioles hypertrophy much in the same way perhaps as the heart hypertrophies when a continued increased strain is placed upon it. Still later in the course of the disease, a certain amount of degeneration occurs in the arterioles and fibrosis results. These processes obviously encroach upon the lumen of the arteriole. In some cases of hypertension, there is, in addition to the above, more rapid degenerative processes and even necrosis in the walls of the arterioles. When this is true, it gives rise to the clinical syndrone which Volhard and Fahr referred to as malignant hypertension. Whether this is a distinct clinical entity or whether it is merely a more advanced stage of ordinary arteriolosclerotic hypertension is a mooted question. It is my personal opinion that so-called benign and malignant hypertension are different grades of the same underlying process.

Additional pathologic changes which occur in other organs in primary hypertension include cardiac hypertrophy and eventual dilatation. Obviously, this affects chiefly the left ventricle. Changes occurring in other organs result from interference with nutrition brought about by the narrowing of the arterioles. The organs principally involved usually are the kidney, spleen, pancreas, liver and brain in the order named.

The symptoms produced by hypertension may be divided into those which occur early and those that come on later in the course of the disease. The early symptoms are few and frequently entirely missing. The condition is often found in the course of a routine examination, such as one undergoes for life insurance, in individuals who have had absolutely no symptoms and have felt that they were perfectly sound. Occasionally, however, headaches and dizziness are fairly early manifestations. As the disease progresses, headaches and dizziness become more severe and other symptoms make their appearance. The headaches associated with hypertension are more commonly present in the early mornings when the patient awakens from a night's sleep. They seem to bear some relationship to the prone position of the patient and are relieved somewhat when the patient assumes an upright position. The cerebrospinal fluid is often under increased pressure in these individuals, and it is thought that edema of the brain accounts in part at least for the headaches. This probably explains why they are more likely to appear after lying down.

Dizziness or vertigo is frequently a very troublesome symptom in hypertension. In the later stages it may be continuously present, or almost so. In the early stages, it is most often noticed upon sudden changes of position, such as occur when one gets up suddenly after lying down. Cardiac symptoms are fairly common in hypertensive patients. A very frequent symptom is the sensation of the heart's momentarily stopping or jumping around in the chest or coming up in the throat, as the patient frequently expresses it. It is well-known that these symptoms usually are produced by extra systoles. Precordial oppression and pain, associated with exertion, are extremely common. These patients frequently become irritable. Not rarely emotional instability is complained of. Insomnia is frequent. Failing vision and spots before the eyes often occur. Mental deterioration with complete loss of sanity is occasionally encountered. Obviously, the symptoms in this disease may point to involvement of almost any organ in the body, resulting from interference with nutrition to that organ.

Upon physical examination, besides the elevated blood pressure, one generally notes enlargement of the heart to the left and downward. The aortic second sound is accentuated and often has a rather high-pitched ringing quality. The eye grounds show definite changes and duration. There will often be noticed areas of constriction along the course of the retinal arteries. These vessels often show an increased light reflex—the so-called silver wire appearance. The arteries cross the veins at a more nearly right angle than in the normal and the veins will show compression at the point of crossing. In the later stages either old or recent retinal hemorrhages may be observed, exudate may appear in the retina and swelling of the discs may be seen. There are some who believe that various types of hypertension and chronic nephritis may be differentiated on a basis of the appearance of the eye grounds alone. There are others, including myself, who believe that the eye ground changes are in direct proportion to the degree and duration of the hypertension. Efforts made by internists and ophthalmologists working jointly on groups of patients to differentiate between the types on a basis of the eye ground changes alone have not been very successful.

The immediate prognosis in the majority of cases of hypertension is fairly good. It is well-known that many individuals live for twenty or thirty years with considerably elevated blood pressure in comparatively good health. There are many exceptions, however, and the hypertensive individual is always in constant danger of some type of catastrophe. The ultimate prognosis, as everyone knows, is extremely grave. It is generally conceded that complete recovery never takes place in a definite case of idiopathic hypertension. The mode of exodus in these patients is varied. They are particularly vulnerable to acute infections. Many of them succumb to pneumonia or other acute infectious processes. A second group will be taken away by vascular accidents, either apoplexy or coronary occlusion. A third group will develop renal insufficiency and die in uremia, or develop insanity and gradually deteriorate until a terminal infection closes the picture. The fourth and last group will die of myocardial failure which inevitably occurs in these patients if they live long enough.

There is no specific treatment of hypertensive vascular disease, as we generally use the term "specific." In the present state of our knowledge we must content ourselves by doing the best we can. It is my impression that in the majority of instances the victims of this disease are over-treated. Our sins are more those of commission than of omission. It is generally conceded that one of the most important etiological factors in hypertensive vascular disease is mental strain and stress. It is important to remember that this factor, if continued or increased, plays an important role in adding to the degree of hypertension and pathological changes in the walls of the arterioles. We can hope to accomplish nothing beneficial, therefore, by adding to the patient's worry in emphasizing the gravity of his hypertensive state. On the other hand, we can often accomplish a great deal by encouragement. We can truthfully state that with reasonable care moderate grades of hypertension are not incompatible with long and useful lives. Just enough of the gravity of the situation should be brought to the attention of the patient to insure his co-operation. Here the judgment, tact and diplomacy of the physician are of inestimable importance. It is not my idea that the patient should be willfully deceived. If his condition is extremely grave, it is sometimes desirable that the patient should know it—

because of his own expressed preference, business reasons or other factors.

It is generally advisable not to acquaint the patient with the exact blood pressure readings at any visit. This statement should not be construed as meaning that a figure lower than the actual one should be given to the patient, for it is never wise to misrepresent facts to patients, but it is much better for the victim if he be trained not to ask the physician for the actual readings. The reasons for this are that if the blood pressure happens to be five points higher than at the last visit, the patient is depressed; if five points lower, he is elated and may be inclined to take liberties that he should not in the belief that he is so much better. The physician knows that a difference of five or ten points in the blood pressure level at different visits is of absolutely no consequence one way or the other. If the physician will educate the patient to be content to be told whether his condition is satisfactory, better or worse, in general terms, the patient will be better off than by obtaining from the physician the actual blood pressure reading and interpreting for himself whether he is better or worse. In this connection, it is probably wise not to advise too frequent visits to the physician for a check on the blood pressure level. It is well known that in hypertensive vascular disease the trend is not usually rapid in either direction—either up or down. Anything that can be legitimately done to decrease the patient's "high-blood-pressure consciousness" is justifiable.

It is a custom of many clinicians when a patient is seen with hypertension to place him at absolute bed rest for a period of weeks or months. Frequently, hospitalization for this rest period is insisted upon. I have never seen any permanent benefit to the patient result from such periods of absolute bed rest in uncomplicated cases of hypertension. On the contrary, I have repeatedly seen harm result from this procedure due to worry and to discontent over such periods of invalidism with loss of earning power and increased and often unjustifiable expense. It is true that bed rest in many instances will tend to lower the blood pressure so long as the patient is at rest, but in my experience, when he resumes activity, blood pressure immediately reaches its former level. Of course, brief periods of absolute bed rest are sometimes essential for tiding the patient over a period of emergency. If we will content ourselves to restrict the patient's activities reasonably and increase the amount of rest moderately, we will have given the patient a more valuable service from the standpoint of permanent improvement. This is especially true in business men who have been active all their lives and who have responsibilities of business and family natures. If such an individual is forced to give up his business connections and spend his entire time in an inactive state, the worry incurred will far more offset any benefit that might be derived from rest. It is my custom to insist upon ten hours' rest in bed at night and two hours' rest in bed in the middle of the day. It should be emphasized that these periods of rest must be uninterrupted. During the hours of activity, considerable restriction should be insisted upon. This should include both mental and physical restriction of activity. The patient should be cautioned against anger and fits of temper. He should also be cautioned against worry. His physical activities should be slowed down, and the patient should be instructed never to permit sufficient activity to cause fatigue or shortness of breath.

The use of drugs in the treatment of hypertension is notoriously futile. The drugs most frequently used are the nitrites and theophyllin compounds. In many instances the nitrites will temporarily lower blood pressure. In advanced stages of hypertension, however, when marked arteriolar damage is present, they are more often ineffective. Furthermore, their action is very transitory. These factors reduce the usefulness of the nitrites to almost nil. They may be useful for temporarily lowering the blood pressure in periods of emergency. We have no conclusive evidence that theophyllin compounds are of any material benefit. Experimental evidence seems to indicate that they produce dilatation of the coronary arteries in dogs, but whether this is true in man and especially if the coronary vessels are diseased is doubtful.

Diet in the treatment of hypertension has probably been overly emphasized. There is no evidence that a normal amount of protein in the diet has any untoward effect on the course of the disease; furthermore, there is very definite evidence that undue and prolonged limitation of protein effects unfavorably any human being regardless of whether he is normal or abnormal. The same may be said of undue restriction in the sodium chloride intake. It is further well-known that an absence of salt renders the diet extremely unpalatable. It is my impression that the most important factor in the diet of the hypertensive individual is the quantity of food rather than its contents of protein and salt. Over-loading the stomach increases the work of the heart and further raises blood pressure. Many hypertensive individuals are overweight, and the diet in these cases should be reduced for the purpose of gradual reduction in weight.

Within recent years, neurological surgeons have undertaken the treatment of hypertension and present indications are that the results are quite encouraging in selected cases. The operation most frequently performed is division of the splanchnic sympathetics. It seems that the blood pressure is materially reduced in a good percentage of cases and even in many of those in which the blood pressure is unaffected, the symptoms associated with hypertension, such as headaches and vertigo, are frequently relieved. Sufficient time has not elapsed since the beginning of this form of treatment to draw definite conclusions as to its value.

Bronchoscopy and Esophagoscopy

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A paper on bronchoscopy must necessarily be arranged in a manner that will present the subject according to the object to be attained. Bronchoscopy per se is a highly technical specialty. However, a practical application of this specialty involves a discussion of those diseases in which it is useful in diagnosis or treatment or both together.

I shall, therefore, attempt to bring to you, from my own experience, the application of the use of the bronchoscope as applied in the management of the following conditions:

1. Laryngo-tracheo-bronchitis
2. Bronchiectasis
3. Fungus infections of the lungs
4. Tumors of the lungs, including malignancies, cysts, granulomata, papillomata, varicosities, etc.
5. Pulmonary edema, the patient drowning in his own fluid
6. Post-operative massive collapse of the lung
7. Lung abscess
8. Stenosis of the esophagus, resulting from swallowing caustics
9. Foreign bodies in the lungs and esophagus.

Laryngo-tracheo-bronchitis

This disease is an acute fulminating infection involving the larynx, trachea, bronchi and bronchioles, occurring in children, usually under four years of age and manifesting its worst forms in those between the eighteenth and thirtieth month. It is characterized by sudden onset, a rapid rise of temperature and pulse rate, an early evidence of laryngeal obstruction, a croupy cough and dyspnea. Very soon alarming symptoms of bronchial obstruction supervene and the condition calls for prompt diagnosis. Laryngeal diphtheria and foreign body in the larynx are conditions to be considered and can only be ruled out by direct inspection of the larynx. Diphtheria can be recognized and the membranes removed by suction through a direct laryngeal speculum. Likewise a foreign body in the larynx is readily recognized and removed in a similar manner. Laryngo-tracheo-bronchitis, however, presents a far different problem, The obstruction in this disease is due to two factors, viz., edema of the larynx itself and the drying of the viscid, gummy secretions of the tracheal and bronchial mucosa which form scabs of the consistency of hard crusts varying in size up to those large enough to occlude the lumen of the bronchi and even of the trachea itself. The use of atropine in these cases is contraindicated because it promotes the drying of these troublesome scabs. The best means we have found of altering the formation of these obstructing bodies is artificial saturation of the inspired air with moisture. Croup kettles and steam kettles of all kinds have been resorted to and they seem to give some relief. Specially constructed rooms in which super-saturation of the inspired air of the patient can be maintained is advocated by some of those who have had experience with these cases. In the more severe cases, early tracheotomy and removal of these crusty secretions by a bronchoscope passed through the tracheotomy and fistula is the most effective method of providing an open airway. The fight of the bronchoscopist to maintain this open airway while the child is combating the double handicap of infection and obstruction, presents some of the most dramatic episodes in all the experience of a physician. It is necessary to stand by and be ready at a moment's notice to go down into the lungs and remove an obstruction which in a few moments would prove fatal to the child. It is necessary, in some cases, to do from twenty-five to fifty bronchoscopies in the course of three or four days. It has been found helpful to instil sodium bicarbonate or sodium perborate in the lung to soften the secretions. The treatment of the disease has been altered and the prognosis greatly improved by the advent of sulfanilamide for the streptococcic and sulfapyridine for the pneumococcic and staphylococcic infections.

BRONCHIECTASIS

A second condition in the diagnosis and treatment of which bronchoscopy is a prime factor is bronchiectasis. This is a widely prevalent disease and, no doubt, is the bane of every physician's practice. It is characterized by the development of dilatations of the bronchi and the formation of large cavities in the lungs. In the beginning of the disease, there is an inflammatory reaction of the bronchial mucous membrane, resulting from either an upper respiratory infection or from a primary bronchitis. The swelling of the mucous membrane and the resulting inflammatory exudate cause a stenosis of the bronchial lumen which progresses to complete obstruction of the bronchus. This obstruction causes a collapse of the lung tissue distally and, on physical examination at this stage, manifestation of atalectasis is present. The physical signs presented are: dullness on percussion, bronchial breathing, rales, bronchophony and a low grade temperature. The heart and mediastinal structures shift toward the involved side. The x-ray picture of the chest is very characteristic in this stage and shows a triangular shadow at the base of the involved lung or lungs.

It is in this stage, the stage of atalectasis, that the case can be cured. Frequently a single bronchoscopic aspiration of the obstructing secretions will result in restoration of the lung to a normal condition. It must be remembered that two factors in this stage cannot be too greatly emphasized. First, adequate treatment of contributing upper respiratory infection and second, establishment of drainage and aeration of the involved lung tissue. The second stage of bronchiectasis, that presenting a marked dilatation of the bronchi and cavity formation, is a very discouraging condition in that there is no cure. Surgical removal of the involved lobes or a single lung may relieve the patient's symptoms. Otherwise palliation is all that can be offered. Palliation, however, should be attempted and pursued with determination, both on the part of the patient and the physician. Measures of proven merit include postural drainage and bronchoscopic aspiration. Aspiration is not always practicable, but in times of severe stages of the disease and especially if lobectomy is contemplated, aspiration should be resorted to.

FUNGUS INFECTIONS OF THE LUNGS

Fungus infection of the lungs, while it is not a common disease, is occasionally encountered and is best diagnosed by the aid of the bronchoscope. I have encountered three cases of characteristic appearance, as looked at through the bronchoscope, that had gone for several years without being diagnosed, notwithstanding they had each been examined several times by various physicians with reference to their subjective symptoms, namely a chronic cough, low grade temperature and blood-stained secretions from the chest which were non-purulent. My impressions when looking into these lungs are expressed in three distinct observations. (1) There was an increased redness of the light reflex of the visual field. (2) There was an increase of the cough reflex as compared with normal lungs and (3) there was the blood-stained mucous secretions in the material coughed up. The infection in all these cases was actinomycosis and the diagnosis was confirmed microscopically.

TUMORS OF THE LUNGS—MALIGNANCIES, GRANULOMATA, ETC.

Tumors of the lungs including malignancies, granulomatoma, papillomata, cysts and abscesses, are best diagnosed by the aid of the bronchoscope. Biopsies of malignant growths can be made only in this way. Removal of papilloma and granulomata can be successfully performed by surgical or cautery measures working through the bronchoscope. I had one patient with periodic hemoptasis which had continued for several years in whom a granuloma was found in the right upper bronchus. This was cauterized with 50% silver nitrate. There was no subsequent hemorrhage for a period of four years and, upon recurrence, a single cauterization has been followed by a complete absence of bleeding now for a period of over three years.

PULMONARY EDEMA, THE PATIENT DROWNING IN HIS OWN FLUID

Patients with pulmonary edema resulting from heart or kidney disease, whose bronchi are filled with fluid and who would otherwise drown in their own fluid, can be relieved temporarily by bronchoscopic aspiration. In the terminal stages of pneumonia, when the lung is filling with fluid, it is sometimes a great relief to the family to be spared the spectre of the death rattle by aspiration of the fluid, bronchoscopically. It does not seem to disturb the patient or increase his heart action to do this. Relief from edema of the lungs, by bronchoscopy, is illustrated by a patient I saw with Dr. Ruch at the Baptist Hospital. The patient was a woman in labor and, as a result of a kidney involvement, fluid filled the lungs to a degree that her life was threatened. After one bronchoscopic aspiration of the fluid from the lungs, she went on to a successful delivery. He gives the credit of saving her life to this aspiration.

POSTOPERATIVE MASSIVE COLLAPSE OF THE LUNG

Postoperative massive collapse of the lung occurs not infrequently in the experience of general surgeons. It is characterized by a sudden onset beginning twenty-four to thirty-six hours following general anesthesia. There is pain in the chest, a rise in temperature and pulse rate, respiration becomes shallower and more rapid. Physical examination reveals that the heart is shifted to the involved side. It is evident that there is a marked contrast of symptoms with those of pneumonia. X-ray pictures will confirm the diagnosis. All the physical signs are in keeping with a plugged bronchus and bronchoscopic examination, as has been demonstrated by numerous bronchoscopists, has shown conclusively that such is the case. Bronchoscopic aspiration of the obstructing secretions is the indication in all these cases. Prevention of this unfortunate occurrence involves caution in giving sedatives and in giving carbon dioxide instead of oxygen, postoperatively. Oxygen is contraindicated postoperatively except in urgency.

LUNG ABSCESS

Abscess of the lung originating from infections starting in the air passages are usually amenable to treatment in which bronchoscopic aspiration is a valuable adjunct. Care must be exercised in selecting a time when a minimum amount of trauma would result from the bronchoscopic procedure. Also the spread of infective secretions to involved areas of the lung must be guarded against. It may be said that any lung abscess that lends itself to successful bronchoscopic aspiration should be treated in this manner and the prognosis should be good except in extremely bad cases.

STENOSIS OF THE ESOPHAGUS, RESULTING FROM SWALLOWING CAUSTICS

Strictures of the esophagus as the result of swallowing caustics, the most common of which is sodium hydroxide, present another field in which peroral endoscopy is of paramount importance. Sodium hydroxide is put up and used under the name of lye, washing powders, cleaners, etc. The incident of this unfortunate occurrence does not seem to lessen in spite of national and state legislation which has been enacted to force warning labels to be placed on cans containing this dangerous agent. On my service at John Gaston Hospital recently, we had six new cases of lye stricture at one time. After swallowing lye, the patient should come under the care of the endoscopist after about ten days. By that time, the acute reaction of the tissue has subsided and instrumentation can be instituted to avoid the stenosis that will otherwise inevitably follow. During the first few days following the ingestion of a corrosive substance, swallowing powdered bismuth subnitrate has some value in preventing adhesions of opposing walls. Also in some cases, it may be advisable to insert a rubber tube into the esophagus and fix it in the manner of a Levin tube.

Foreign Bodies of the Esophagus and Lungs

Foreign bodies in the air and food passages represent some of the greatest triumphs and some of the greatest tragedies in medicine. Without bronchoscopy, practically every case would be a fatality. It is true that some foreign bodies in the esophagus will escape unaided, but those are the exceptions and do not influence the concept that the necessary thing to do when a foreign body is suspected is to take all necessary measures to diagnose and remove, if present. The diagnosis of a foreign body is usually made by the history, the physical signs and the x-ray picture.

In some cases of non-opaque foreign bodies, presenting meager physical signs, and an indefinite or no history of the intake of the body, it is necessary to make the diagnosis by finding the foreign body by means of bronchoscopy. There are, however, certain factors in the history of intake of a foreign body, together with the physical findings in the chest, which will unmistakably establish its presence in the lungs, even though the x-ray picture fails to reveal it.

In nearly all cases, there is a history of choking, straining and gagging at the time of intake. These are the most important symptoms. After this, the disposition of the object is that it is either spat out or goes downward into the air or food passages. If it lodges in the larynx, there may be a period of some hours or even days of quietude in which there are no symptoms. Ultimately, however, there will follow pain, croupy voice or loss of voice, spitting of blood, wheezing and dyspnea. These symptoms may vary in severity, some or all of them may be absent, but on the whole they are fairly constant. With or without the confirmation of an x-ray picture, direct laryngoscopy is necessary to remove the foreign body.

If the foreign body lodges in the trachea, the evidences following the gagging, straining and choking will be, first, a cough which is usually very severe and paroxysmal. The fact that the foreign body does not become fixed in one location results in a continuation of the cough. Second, there is an asthmatoid wheeze, the sound of which is drier than that of the asthmatic wheeze, especially after coughing up any secretions which may have formed at the site of the foreign body. Then there is an audible slap, the palpatory thud and the tracheal flutter.

The audible slap is the sound produced by the foreign body when it is coughed up against the subglottic narrowing. The palpatory thud is noted when the examiner's finger is placed on the patient's trachea and the sudden arrest of the foreign body is recognized. Sometimes when the examiner's ear is placed at the patient's mouth, a fluttering sound is heard to which the term "tracheal flutter" has been given by Jackson.

A foreign body in the bronchus may give widely varying symptoms, depending on the size of the object in relation to the size of the bronchus, the position in the bronchus, the length of time it has remained in the bronchus, the nature of the foreign body, the amount of reaction that has occurred and other factors.

A more obstructive foreign body in a bronchus will present the following symptoms:

1. Choking and gagging
2. A symptomless interval
3. Cough, at first non-productive and later muco-purulent
4. Fever
5. Chills
6. Symptoms of emaciation

It is important to remember that following the initial paroxysm of coughing, if a foreign body becomes immovable in a bronchus, the coughing disappears and until secondary reactions set in after a period of a few days to a few weeks or longer, there may be no further evidence of its presence. It is this symptomless interval that so often leads the family and the physicians into a sense of false security. If the foreign body is of vegetable origin, such as watermelon seeds, grains of corn, peanut kernels, violent symptoms promptly manifest themselves and the so-called vegetal bronchitis is set up.

Physical signs will depend on whether the bronchus is entirely obstructed by the foreign body, whether it is partially obstructed and the bronchus is partly filled with air and partly filled with secretions or whether there is a check valve action in which air is allowed to enter the bronchus, but not allowed to esape, thereby resulting in an over-distention of the involved lobe of lung tissue.

By inspection, it will be found that there is a reduction of the respiratory excursion of the involved side. If the bronchus is plugged, either with the foreign body alone or with the addition of secretions, there will be a decrease of the involved side. If there is a check valve action of the foreign body in the bronchus, there will be an increase in the involved side.

Percussion will be influenced by the various conditions the foreign body effects in the lung. If the bronchus is completely blocked, the air will soon be absorbed and the collapsed lung will give a tympanitic note associated with dullness. Subsequently when the lung becomes filled with secretions, the note will become flat. When there is partial obstruction, there is great variability of the percussion note depending upon the degree of obstruction and the rapidly altering condition in the lungs.

In the distended lung resulting from the check valve action of the foreign body, hyperresonance will characterize the percussion note. Rales will be found in the lungs over a partially obstructed bronchus. If the bronchus is completely obstructed, rales will be heard only in lung tissue outside of the obstructed area. In the presence of a foreign body, there is ever a shifting of secretions from one position to another and likewise a variability of the physical signs.

Foreign bodies in the esophagus are diagnosed by means of the history and x-ray picture. If the foreign body is non-opaque, then the diagnosis is based on a history of choking, pain which is constant or felt at the same place at each successive swallowing act, drooling, spitting of blood and later evidences of a general reaction—such as fever, etc. If the patient is allowed to swallow a capsule of barium, under fluoroscopy, the position of the foreign body is still further determined by the checking of the capsule when encountered. In the case of non-opaque foreign body, swallowing bismuth powdered in water will aid in delineating the foreign body by virtue of the fact that in surrounding the foreign body the opacity corresponds to the bismuth, while lack of opacity over the area corresponds to the foreign body. It should be stressed that in making x-ray pictures for foreign bodies in the lungs and esophagus, all articles of clothing should be removed and all foreign objects removed from areas to be x-rayed. I have on a number of accasions had patients sent to me with an x-ray picture showing a foreign body cast over the lung or esophageal area which turned out to be a shadow cast of a button or a pin on the clothing the patient was wearing at the time of x-raying. It can be conceived how a normal patient might lose his life if an attempt should be made to remove a foreign body mistakenly diagnosed in this manner. There is usually a more strenuous search made under a false delusion of the presence of a foreign body than is made when the foreign body is readily found.

REMOVAL OF FOREIGN BODIES FROM THE LUNGS AND ESOPHAGUS

Foreign body work is largely a problem of organization—organization of equipment and of team work among the helpers. If a proper diagnosis has been made as to the size, shape and nature of the foreign body itself, its position and length of sojourn in the lung, if there are two scrub nurses, a circulating nurse, an anesthetist and a supervisor; if there is a competent assistant trained to hold the head; and if all instruments necessary for any contingency have been prepared or are easily accessible, removal of foreign bodies, by a competent bronchoscopist, in most cases is a comparatively safe procedure. On the other hand, if the bronchoscopist is allowed only one or two pupil nurses who perhaps have never witnessed a procedure of this kind, an intern whose rotating service allows him to see and assist in only one or two procedures, if his armamentarium is inadequate and poorly prepared, if he gets no sympathetic co-operation from those who are supposed to assist him, it is very apparent that delay and disorganization are inevitable. The influence of this kind of a set-up upon the bronchoscopist himself is anything but reassuring. If the head is not properly held, liability to traumatize the larynx is very great. If a scope a trifle too large is used, it will likewise traumatize the larynx. Traumatism to the larynx frequently produces edema, necessitating tracheotomy. Improper head holding makes it difficult to manipulate the scope and to grasp the foreign body. If the foreign body is successfully grasped and brought up into the larynx, any mismovement on the part of the head holder may cause it to slip from the forceps and escape back into the lungs. These considerations prompt me to give a little history of the bronchoscopic set-up at the Baptist Hospital in Memphis. Previous to about three years ago, as a result of a lack of appreciation on the part of hospital management, doctors, nurses and interns, of the value of proper organization for this work, bronchoscopy was done under the unfavorable conditions which I described in the second illustration. One or two nurses, one new intern and no equipment furnished by the hospital was the allotment. No one bronchoscopist had more than a few hundred dollars' worth of equipment. It requires several thousand dollars' worth of equipment for adequacy. There were about six bronchoscopists who did their work at this hospital. It was then that most of these men agreed to pool their instruments and make the pool available for each man. A suitable cabinet for holding these instruments, made to look attractive and easily portable on wheels, was donated by one of the number. Certain requirements in regard to the number of helpers was agreed upon. The operating room supervisor was induced to devote her efforts toward building up a bronchoscopic consciousness among the personnel on the operating room floor, centering around these pooled instruments. The standards of technique of all the men have been improved as a result of cooperation. The hospital authorities have caught the spirit and are planning to equip a separate room especially designed for bronchoscopy. The net result of all this makes bronchoscopy quite a different procedure from what it was formerly. However, under the most favorable conditions each foreign body to be dealt with presents its own mechanical problem and because of the life hazard to every patient acquiring a foreign body in either the air or food passage, bronchoscopy becomes a major branch in medical practice.

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Benign Tumors of the Small Intestine: A Case Report

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WE HAVE BEEN prompted by the frequency of the association of benign tumors with intussusception in adults to report this case.

REPORT OF A CASE

History: D. B., a white woman, aged 23; occupation, practical nurse; status, single, was admitted to the John Gaston Hospital on January 23, 1939, complaining of vomiting and colicky pain in the abdomen of four days' duration. Six weeks ago she noticed fullness, nausea and vomiting, following the ingestion of ham and eggs. There have been several similar attacks of three to four days' duration. She has been constipated all of her life and associated with these attacks, her constipation became more severe. For the past twelve hours the vomitus has been of a greenish-yellow color. The pain in the left lower quadrant has been so severe as to cause her to bend forward for relief. There has been no bowel movement for three days and no returns from three enematas.

Past History: Colitis during childhood. Operation in 1936 for patent urachus, at which time the appendix was removed. Menstrual history: normal. No pregnancies.

Physical Examination: The temperature is 96.2; the pulse rate, 80; respiration, 20, and the blood pressure 100/80.

A well developed and nourished white female, vomiting frequently and complaining of intermittent pain in the left lower quadrant. There is barely perceptible distention of the abdomen at the site of a well-healed low mid-line scar. Peristalsis is audible, but not excessive. There is generalized abdominal tenderness present, but no rigidity. Vaginal examination, negative.

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Laboratory Reports: The red blood cell count was 4,400,000 per cubic millimeter. The value for hemoglobin was 12.4 gms., (Sahli). The white cell count was 17,200 per cubic millimeter, with neutrophils 92 per cent, myelocytes 3 per cent, and lymphocytes 5 per cent. The blood chloride was 400 mgs. per 100 cc. of blood. The non-protein nitrogen was 36 mgs. per 100 cc. of blood.

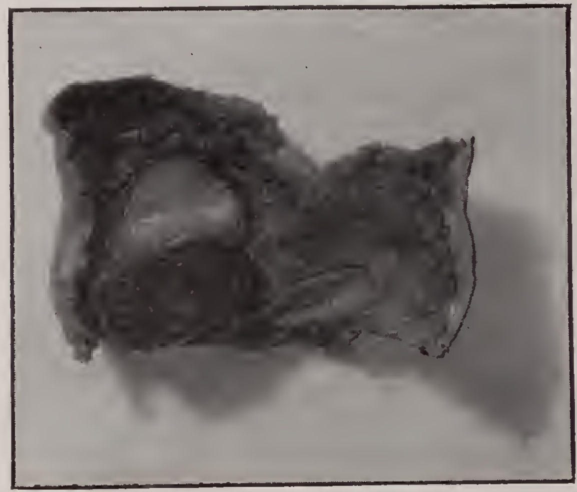

Fig. 1. Gross specimen showing tumor and cut surface projecting from anti-mesenteric border of ileum.

Urine: Albumen, negative; sugar, negative; acetone, 2 plus. Microscopic, negative.

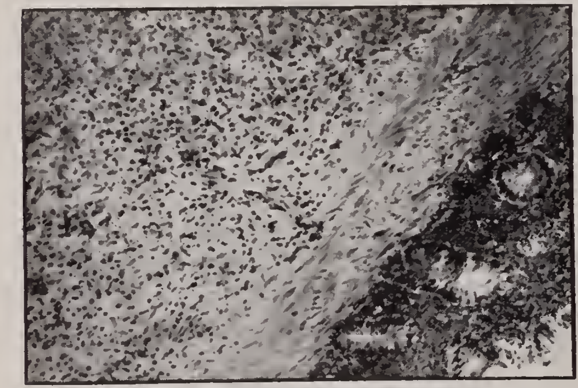

Fig. 2. Mucosa of ileum, mucosa muscularis and tumor. The tumor composed of fibrous tissue cells and wandering cells significant of chronic inflammation. There are many eosinophiles present.

X-Ray Findings: Scout film showed small amount of gas in the distal transverse colon and possibly the sigmoid. No evidence of intestinal obstruction.

Operation: Exploratory laparotomy. Reduction of ileo-colic intussusception. Resection of portion of the ileum. Side to side anastomosis. Witzel ileostomy.

Pathology: A firm, walnut-sized mass could be felt through the cecum at the apex of the intussusception. This mass had a limited range of motion and was returned through the ileo-cecal valve, with difficulty. The bowel was viable.

Pathologist's Report: Fibromatous polyp of the small intestine with chronic inflammation and ulceration. The polyp measured 2.5x1.75x 2 cms. It was attached to the anti-mesenteric border of the ileum approximately 10 inches from the ileo-cecal valve.

Postoperative Course: The ileostomy tube was removed on the seventh postoperative day. The following day a wound infection was located and drained. Her temperature ranged from 99 to 101 degrees for the first eight days, but fell to normal after drainage of the wound. The infection cleared rapidly and on the twenty-first postoperative day she was discharged to the surgery out-patient department.

COMMENT

In 1899 Heurtaux[1] stated the following possible sources for benign tumors of the small intestine: (1) mucosa, adenoma; (2) submucosa, fibroma; (3) muscularis, myoma; (4) fat cells of the external coat, lipoma; (5) fibrous tissue of the serosa, fibroma; (6) epiploic appendages, lipoma; (7) blood vessels, angioma; (8) and possibly the muscularis mucosa, myoma. His work was based on 29 cases by Steiner[2] reported the previous year, having been studied microscopically, and 3 cases of myoma were added by Heurtaux.

King[3], in 1917, reported 47 cases. Twenty-two of these were myoma, 9 were fibroma, 3 were myxofibroma, and 12 miscellaneous. Their distribution was: duodenum 5, jejenum 8, ileum 23, and not designated, 11.

Brown[4], in 1924, collected 13 cases of vascular tumors from the literature, and added one.

Raiford[5], in 1932, summarized 88 cases of tumors of the small intestine from the records of John Hopkins Hospital. He found 39 malignant and 49 benign ones. The benign group was composed of 16 adenomas, 4 fibromas, 4 myomas, 6 lipomas, 6 pancreatic rests, 3 angiomas, 2 hematomas, 7 argentaffine tumors, and 1 cyst. Their distribution was duodenum

13, jejenum 10, ileum 25, and not stated, 1.

The low incidence of malignancy is explained by Feidler[6] in reporting a fibroma of the ileum with intussusception by lack of epithelial points, absence of irritation, and poor nutritive qualities of the small intestine.

Rankin and Newell[7] in 1933 summarized 35 benign tumors from the records of the Mayo Clinic. Adenoma and myoma were seen with equal frequency and made up two-thirds of their total number. Half the remainder were fibromas. Of the rarer ones reported were lipoma, cystadenoma, hemangioma, adenomyoma, and one osteochondroma, believed to be the only one of its kind mentioned in the literature as occurring in the intestinal tract. The sites of these were duodenum 15, jejenum 9, ileum 7, ileo-jejunal junction one, and not designated 3.

Moore and Schmeisser[8], in 1934, cited 114 benign tumors, of which 47 were myoma, 42 fibroma, and 25 hemangioma. The distribution of these was duodenum 8, jejenum 26, ileum 46, and not designated 22. They added 3 cases: a hemangioma of the duodenum, a myoma and a fibroma of the ileum.

Haggard and Floyd[9] call attention to familial tumors, citing a father who had four operations for obstruction, three due to benign and one due to a malignant tumor. His daughter had two operations for obstruction due to benign tumors and his son three operations with three resections for intussusception from polypi.

Weiner and Polayes[10], writing on etiology of lipomas, states that a new growth is the result of developmental processes influenced by the genetic pattern of tissue development, and by hormonal control through endocrine glands. They believe that the appearance of lipomatous tumors after puberty is one of many instances that suggests the influence of the gonadotropic secretion on tissue growth.

Intussusception has been regarded as one of the symptoms of these tumors by various authors. Oughterson and Cheever, quoted by Haggard and Floyd, refer to thirteen cases of multiple recurrences, calling for multiple operations falling into four groups: (1) Intussusception reduced and tumor overlooked. (2) Intussusception reduced, tumor removed and second tumor overlooked. (3) Tumor without intussusception resected, second operation intussusception reduced, tumor overlooked, third operation for removal of second tumor. (4) Intussusception reduced tumor not removed, requiring second operation because of recurring intussusception with resection of a tumor and at third and fourth operations multiple tumors removed or excluded.

Monfort[11] reports a case where tumor was overlooked at first operation and the patient died at the second operation.

Poston[12] emphasized the rarity of intussusception in adults and cites reference to 64 lipomas with 34 intussusceptions.

Intussusception of the jejenum in a four-month-old child, due to polyp was reported by Tarnowsky and Sarma[13].

CONCLUSIONS

1. A case of fibromatous polyp of the small intestine with intussusception has been presented.
2. Emphasis has been placed on the association of benign tumors and intussusception.

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Stones in the Lower Genito-Urinary Tract

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THE THREE portions of the lower genito-urinary tract where stones are most often found are the bladder, the prostate gland, and the urethra. The etiological factors which predispose to the formation of stones are (1) foci of infection, (2) the presence of stasis, and (3) some metabolic dyscrasia. Some of the more common sites of infection are:

(1) Teeth
(2) Tonsils
(3) Upper respiratory lesions such as chronic infection of the sinuses, antra, ethmoids, etc.
(4) The genito-urinary tract itself, such as in urethritis, prostatitis, seminal vesiculitis, and in women, endocervicitis and salpingitis
(5) Chronic cholecystitis, appendicitis, and colitis are less frequently the cause of stones.

The organisms most often causing stones are:

(1) The urea-splitting staphylococcus
(2) Proteus bacillus
(3) Streptococcus
(4) Colon bacillus.

Stasis may be caused by stricture of the urethra, enlargement of the prostate, contracture of the vesical neck, diverticula of the bladder, or urethral valves in children.

Facts about metabolic disturbances are not well understood, but we know that normally there are substances in the urine called colloids which hold crystalloids in suspension. The disturbance in relation to these two subtances cause a precipitation of colloids and crystalloids. If a foreign body be present to form a nucleus, and the urinary stream has been slowed by some form of obstruction, the precipitated urinary salts as mentioned above, will gradually settle upon and adhere to this nucleus, and become hard. The stone thus formed will grow as the various salts continue to be precipitated.

Other factors thought to predispose to stone formation are:

(1) Climate
(2) Race
(3) Diet
(4) Locality
(5) Fracture, especially of the long bones
(6) Foreign bodies in the bladder of urethra.

Extremely hot and dry climates predispose to stone formation, as the urine is scanty and highly concentrated. In our section we do not find as high a percentage of stones in the colored race, as in the white. Formerly, much attention was paid to diet, meat being often limited, or excluded altogether. However, at the present time a well balanced diet is recommended. The very poor whose diet is not so varied, are much more likely to develop stones. Children, since more attention is being paid to their food, and cod liver oil is prescribed, are not nearly so susceptible to calculi. Most stone sufferers do very well on a mixed diet with the administration of vitamins A and D. However, in a few obstinate cases, it may be advisable to have the stones crushed and a chemical analysis made, with the diet outlined accordingly.

Stones are very prevalent in some mountainous sections where the water contains certain chemical properties. Patients who have been confined to bed for some weeks with fractures, especially of the long bones, not infrequently develop calculi. Chronic suppurating wounds are also foci from which stones result. Foreign bodies such as non-absorbable sutures, pieces of catheters, broken instruments, hair pins, etc., often form nuclei for stones. The lack of vitamin D is thought to be a contributing factor.

As to composition, the following are the stones most often found:

(1) Uric acid
(2) Calcium oxalate
(3) Calcium and magnesium phosphate
(4) Calcium carbonate

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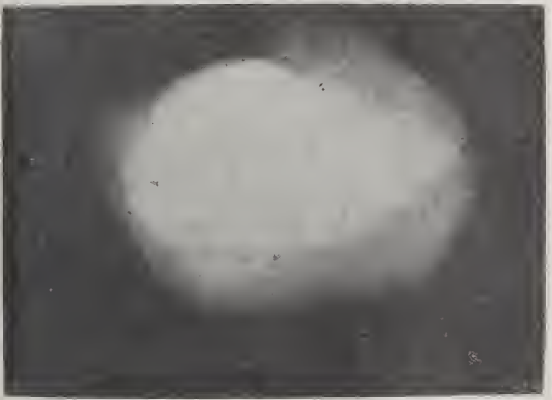
(5) Cysteine and xanthine.

Uric acid calculi are very hard and grow slowly, while those composed of calcium phosphate are rather soft, and often grow quite rapidly.



Large Secondary Prostatic Stone Removed From the Prostatic Urethra.

Bladder stones may be primary or secondary. The primary stones form in the bladder, while the secondary stones are passed down into the bladder from the kidneys or ureters. Unless some form of obstruction be present, at the vesical neck, or in the ureters, any stone which can pass down the ureter to the bladder will pass out through the urethra. As mentioned above blood clots or small shreds of mucus, unabsorbable sutures, pieces of instruments or broken catheters, cotton swabs, and other foreign bodies are some of the nuclei about which primary stones form. Residual urine caused by obstruction, plus infection are also prominent factors in stone formation in the bladder.

Pathology

Stones in the bladder may cause ulceration due to pressure, and accompanying infection. A cystitis is always present, and a pyelitis may result from obstruction of the ureteral orifice by the stone. Prolonged straining at the time of urination not infrequently results secondarily in hemorrhoids and hernias; this is especially the case in old men. These patients coming for treatment of a hernia should always be carefully checked for prostatic obstruction and stones in the bladder.

The symptoms characteristic of stones in the bladder are:

(1) Frequent and painful urination
(2) Pain in the suprapubic region
(3) Hematuria
(4) Dysuria
(5) Retention of urine.

The pain is in the suprapubic region, and may radiate to the back, down one or both legs, or to the testicles. Sometimes it is intensified by turning over in bed. Dysuria, painful and frequent urination are always present, and may be most annoying. The hematuria may be very slight, being caused by an irritation of the bladder wall, or it may be very profuse resulting from ulceration into a blood vessel. If the calculus is of the proper size it may roll into the prostatic urethra, and produce a complete retention of urine.

Diagnosis is based upon:

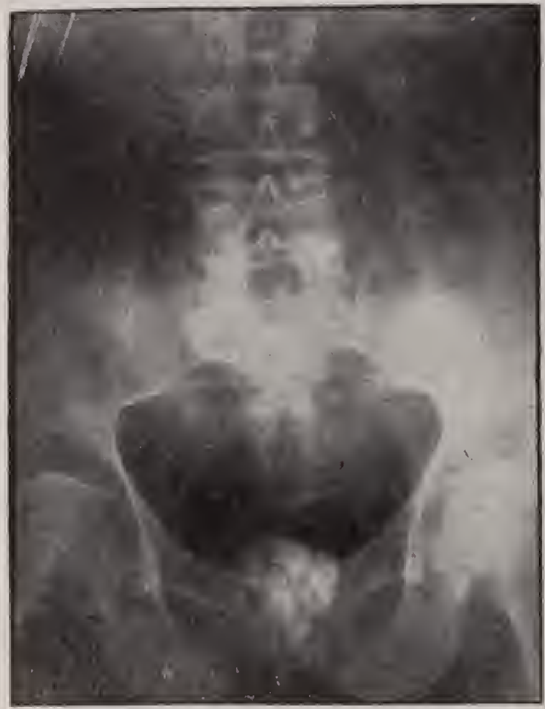
(1) History
(2) X-ray examination
(3) Cystoscopic examination
(4) Use of sounds and stone searchers.

From the above outlined history, a stone should be suspected. An x-ray picture will be positive in about 95% of the cases. Often a stone is felt to click against a sound or other metal instrument while it is being passed into the bladder.

Primary Stone Removed from Bladder Having a Cotton Swab as a Nucleus.

Treatment

The stone may be removed either by litholapaxy, or by suprapubic cystotomy. Small stones can be removed with forceps through an operating cystoscope. Medium-size calculi may be crushed by means of a lithotrite. If much bladder infection is present, and the obstruction at the vesical neck is considerable, a litholapaxy is contraindicated. Patients with large stones, especially where complicated by a severe cystitis, should have a suprapubic cystotomy.



X-ray Picture Showing Primary Stones in Prostate Gland.

To prevent a recurrence:

(1) All foci of infection must be sought out and removed. Remember there may be more than one.

2) Obstruction at the vesical neck must be corrected, and strictures dilated, if present.

(3) The pH must be brought to normal—5.5. Alkalis may occasionally be necessary where the pH is too low, and where cysteine stones have been removed. In most cases the pH will be found too high, being around 7. The administration of urotropin with ammonium chloride or acid sodium phosphate, and mandelic acid preparations in connection with a modified ketogenic diet, in our hands, has been very satisfactory in keeping the urine acid.

The bladder must be eradicated by irrigation and by the administration of urinary antiseptics, etc. If a complicating pyelitis is present, it must be cleared up by cystoscopic methods. The patient's habits also should be regulated, and he should be instructed to drink water freely and take plenty of out-door exercise. If the water supply contains excessive mineral salts, distilled water should be advised. General tonic containing some form of vitamin D should be prescribed.

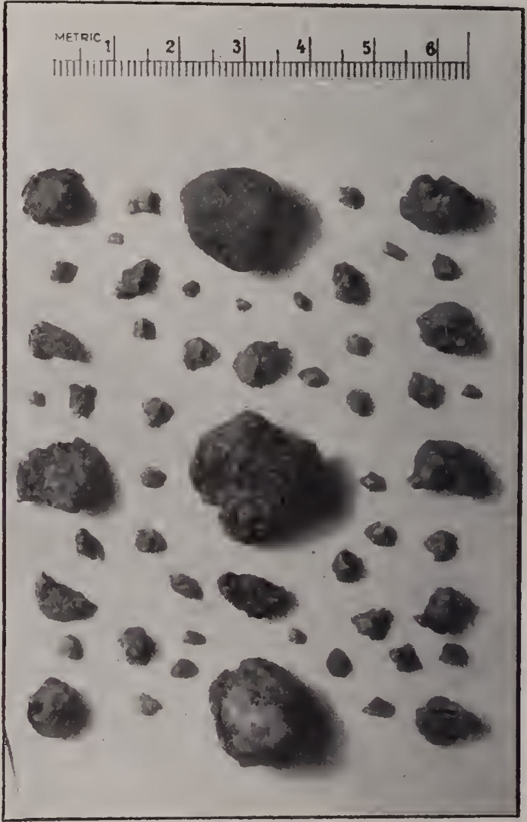
There are three general types of stones found in the prostate:

(1) Slight calcification of small bodies in the prostate known as corpora amylacea, and are not true stones.

(2) Secondary stones which have formed elsewhere, but having lodged in the prostatic urethra continue to grow.

(3) The true prostatic calculi which are found in the prostatic ducts and alveoli.

Only the last mentioned class of stones will be considered here.



Primary Prostatic Stones as Shown in Previous Picture After Removal.

ETIOLOGY

They rarely occur before the age of fifty-five, and are primarily a disease of the very old. Obstruction and infection are the underlying factors. Previous multiple prostatic abscesses seem to play a part.

SYMPTOMS

They are the same as found in other forms of prostatic obstruction—viz, nocturia, dribbling, dysuria, hematuria, pain in suprapubic region and down the legs, and occasionally, acute urinary distention.

DIAGNOSIS

Upon rectal examination the prostate will be found enlarged, irregular, nodular, and very hard in localized areas. Not infrequently crepitus may be noted. An exploration of the urethra will show a prostatic obstruction, and with a metal instrument, a clicking sensation may be elicited. An x-ray will show shadows in the prostatic region. Carcinoma of the prostate is sometimes confused with this condition. The differential points are crepitus, characteristic click obtained during instrumentation of posterior urethra, and x-ray findings when calculi are present.

PATHOLOGY

These stones usually form in the ducts and the alveoli of the prostatic gland, and are always multiple, as many as seven hundred having been reported. As these calculi grow and become more numerous, the prostatic tissue is gradually replaced by them until there is very little tissue left.

TREATMENT

If causing symptoms, the stones as well as the accompanying obstruction must be removed, either by prostatectomy or transurethral resection.

Stones in the urethra are not found very often. They may be either primary or secondary. The primary stones form in the urethra behind a stricture, or in a diverticulum; they occur less frequently than secondary stones, which are due to the lodging in the urethra of a calculus attempting to pass from the bladder. The symptoms are those of a stricture of the urethra, some of which are—a morning drop, dribbling, dysuria, small stream, hematuria, etc. A retention of urine has been known to occur. The calculus may be complicated by a periurethral abscess, which often results in a urethral fistula.

DIAGNOSIS

(1) The history
(2) Grating felt while attempting to pass a sound
(3) X-ray pictures.

TREATMENT

Unless located near the meatus, these stones should be removed by operation. Not infrequently, it is advisable to divert the urinary stream either by a suprapubic cystotomy or an external urethrotomy, before the stone is removed. If this is not done, a retention catheter should be kept in for several days. The stricture of the urethra behind which this stone lies, must be kept dilated for a number of years to prevent a recurrence.

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Ptyalism of Pregnancy

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It is not with the expectation of shedding new light on the subject of ptyalism of pregnancy that we present this paper, but with the hope that we may be able to clarify some of the present day concepts of this obscure subject. Whether it is because it has been considered a trivial matter, or because very little is known about the pathology and treatment, that so little can be found in obstetrical works bearing upon the subject, we are unable to decide, but we feel sure that the physician who has had a case of profuse and prolonged salivation of pregnancy under his care will cease to consider it trivial.

In the standard obstetrical works, we find the matter disposed of in a few lines, all agreeing that it is of nervous origin, and not readily controlled by remedies. Cases are cited in which the discharge amounted to several quarts a day, requiring the patient to keep a basin by her side, incessantly emptying the mouth, reducing her to a condition giving rise to serious anxiety.

De Lee[1] says a profuse discharge from the salivary glands is a rare complication of pregnancy. Titus[2] calls attention to the fact that it is generally confined to the early weeks of pregnancy, but occasionally continues during the whole of gestation. Other authors report its persistence even for a few months following delivery.

Brown, Wright, and Limbacher[0] of Ohio State University have reported excellent study on the chemistry of mixed human saliva, with special reference to calcium and phosphorus. They found that in their subjects using chewing stimuli alone, the rate of secretion of saliva varied from 28 to 213 cc. per hour. They also found that as the rate of secretion rose so did the content of solids, ash and chloride. The phosphorus and calcium concentration varied; at times the concentration of the latter approached that of the blood stream.

The typical cases of ptyalism present to the doctor the following picture: They have had the same trouble with their previous pregnancies and a high per cent report a familial tendency to the same condition.

There is a constant flow of saliva from the salivary glands, requiring the incessant use of a handkerchief or a vessel for its reception. They complain of great dryness of the throat and inability to swallow the saliva. This is usually accompanied by vomiting, and the constant dribbling interferes with digestion and sleep to such an extent that the patient becomes emaciated and weakened. Their naturally neurotic temperament is greatly aggravated by their condition. Their physique becomes weak and undernourished and their complexion sallow. Urine, which is greatly reduced in volume, shows traces of albumen; acetone and diacetic acid are also present, along with biliary pigments and urobilin denoting a functional disorder of the liver. The blood chlorides are reduced.

This type of case should be hospitalized and treatment should be similar to that for hyperemesis, particularly should the carbohydrate and chloride intake be increased. The nervousness and apprehension should be controlled with bromides or barbiturates.

Trillat,[4] reports a case in which adrenalin was used with good results, the dosage being ten drops by mouth. In ten days the amount of saliva decreased to 100 cc. from a previous 900 cc. The urinary output increased to 1500 cc. from a previous low of 400 cc. In one month the patient was completely cured after taking the medication for three weeks.

Biermer[5] conceived the idea of using x-ray when other means proved ineffective. Both cheeks were treated by means of the neointensive apparatus with coolidge tubes on a field of 6/8 cm, at focal skin distance and with a 1/2 mm Cu-Filter 85 Est-E. The field chosen included the three oral salivary glands. Maximum irradiation was directed upon the parotid gland, the glandula sublingualis receiving the minimum impact.

Immediately after treatment salivation lessened, the saliva thickened to a viscous consistency and left a flat, stale taste in the mouth, with a numb feeling in the mucous membranes of the mouth. No swelling of the glands was observed. The numb feeling had disappeared by the third day. The flat taste persisted however.

Recently, the author had a persistent case of ptyalism which failed to respond to the usual measures mentioned, and in addition vitamin B was given both hypodermically and orally in large dosage with no apparent beneficial results. This case persisted throughout pregnancy and was not relieved until 24 hours following delivery. We feel in this type of case that x-ray would offer some hope of alleviating the distressing symptoms.

CONCLUSION

Ptyalism of pregnancy is still a complication the etiology of which is still as unfathomed as toxemia of pregnancy. Until more has been learned about the physiology and chemistry of saliva probably little more will be known as to the etiology of ptyalism. There is no doubt that the autonomic nervous system is instrumental in the condition, but nothing actually is known. Suffice it to say, however, ptyalism of pregnancy is an important complication, and no one treatment has proved effective. In the severe cases the same type of treatment as that used in toxemia has proved the best general therapy, and x-ray offers the most hope as a specific type of treatment.

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Low Back Pain, With Special Reference to Injuries of the Intervertebral Disc

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A CLASSIFICATION of the etiologic possibilities of low back pain is a difficult problem. One must, however, have a fairly accurate knowledge of the numerous conditions which may be responsible in order to approach a diagnosis. The relative role of these lesions in the production of the symptom is also an important consideration.

Infections, such as tuberculosis, syphilis, osteomyelitis, and, particularly, chronic arthritis, are among the common causes of low back pain. Congenital abnormalities and acquired deformities are factors in a large number of cases. Faulty posture and muscular imbalance incident to deformity give rise to a rather characteristic type of chronic backache. The tilting of the pelvis stretches the ligaments, leading to pain in the lumbosacral and sacro-iliac joints, either individually or in combination. Fatigue and exertion aggravate the condition, which, if allowed to persist, may seriously incapacitate the patient. Other common agents are tumors, and injuries, such as fractures, dislocations and sprains. Not infrequently, two or more of these factors may be necessary to induce pain; for example, injury of an arthritic spine may precipitate low back pain in a patient who had been unaware of the disease prior to the injury. Cases of these various types usually lend themselves readily to differential diagnosis. Roentgenograms, supported by physical findings and a carefully taken history, should point to the nature of the lesion.

Persistent pain, however, sometimes offers a real challenge. When a patient complains of pain for which there is no apparent background, no objective sign, no obvious disturbance of anatomy, one is confronted with a problem whose source may be far or near.

CLASSIFICATION OF BACKACHE

The following classification of the conditions most common in producing backache may be used as a diagnostic guide—

- (a) Involving extraspinal structures
  - 1 Ligaments
  - 2 Muscles
- (b) Involving intraspinal structures
  - 1 Intervertebral disc
  - 2 Ligamentum flavum

Trauma

- (c) Involving vertebrae
  - 1 Fractures
    - (1) Body
    - (2) Laminae
    - (3) Facets
    - (4) Pedicles
- (d) Involving joints

Infections
- 1 Arthritis
- 2 Spondylitis
- 3 Fibrosis
- 4 Typhoid spine
- 5 Tuberculosis, other local infections

Metabolic Conditions
- 1 Hypertrophic changes
- 2 Osteoporosis

Congenital Anomalies
- 1 Spina bifida
- 2 Sacralization 5th lumbar
- 3 Anomalous facets
- 4 Supernumerary, atypical vertebrae

Tumors
- (a) Benign
  - 1 Osteoma, osteochondroma
  - 2 Giant cell
  - 3 Hemangioma
- (b) Malignant
  - 1 Metastatic
  - 2 Myeloma
  - 3 Sarcoma (primary)
  - 4 Ewing's tumor

Posture
- (a) Acute strain
- (b) Chronic strain

Neurological Conditions
- 1 Myelitis
- 2 Neuritis
- 3 Cord tumor

Remote Pathology
- 1 Pelvi
- 2 Abdominal
- 3 Genito-urinary tract
- 4 Systemic conditions

If other symptoms are associated, a multiplicity of etiologic possibilities may be suggested to cloud the diagnosis. In many cases of obscure origin, the pain arises from a lesion of the ligamentum flavum or an inter-

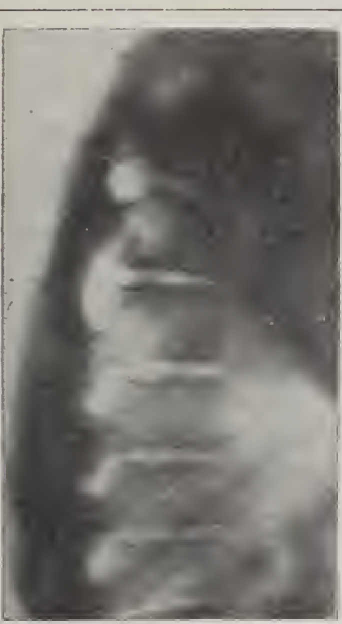

Fig. 1. Roentgenogram showing unreduced compression fracture of 12th dorsal vertebra, producing persistent low back pain.

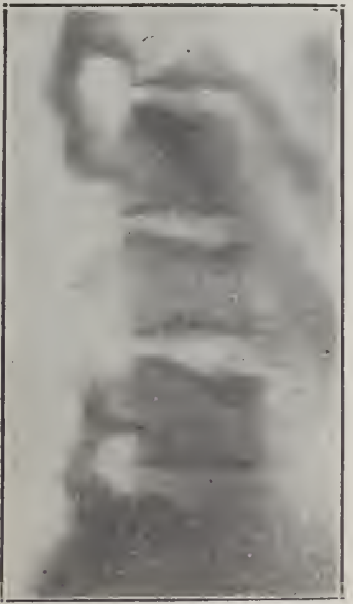

Fig. 2. Roentgenogram showing fracture of anterior margin of bodies of 3rd and 4th lumbar vertebrae. This type injury is frequently overlooked.

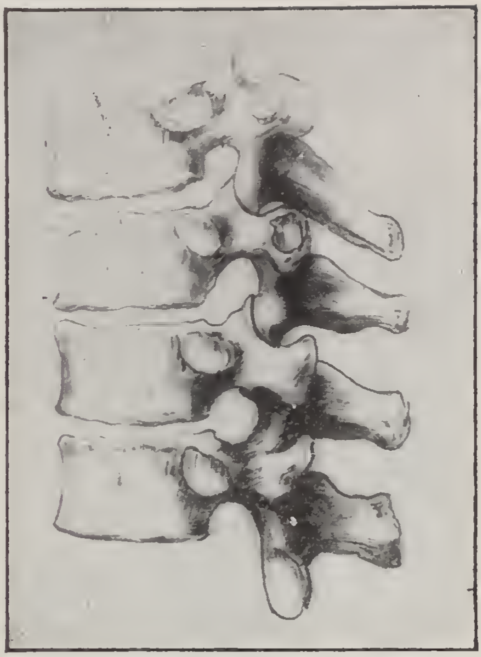

Fig. 3. Pencil drawing of section of lumbar spine showing compression fracture anterior margin of 2nd lumbar. This type injury is very difficult to demonstrate on x-ray film.

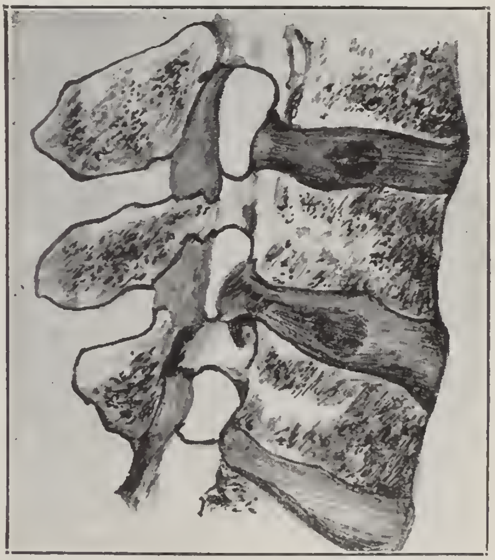

Fig. 4. A sagittal section of the lumbar vertebrae showing a posterior protrusion of the central intervertebral disc with thickening of ligamentum flavum. The ruptured disc encroaches upon the intervertebral foramen, compressing the nerve root having its exit between the tumor and the pedicle above. The nerve root having its exit below would be compressed by the narrowing of the space between the ruptured disc and the ligamentum flavum.

vertebral disc, either independently or complicating other injuries of the lumbar spine and sacrum. Lesions of this type are present much more often than the literature would indicate. During the past few years, however, we have learned that rupture or dislocation of a portion of an intervertebral disc and laceration of the ligamentum flavum is a frequent cause of low back pain. The history and symptoms of such injuries are essentially the same, and a preoperative differential diagnosis is impossible.

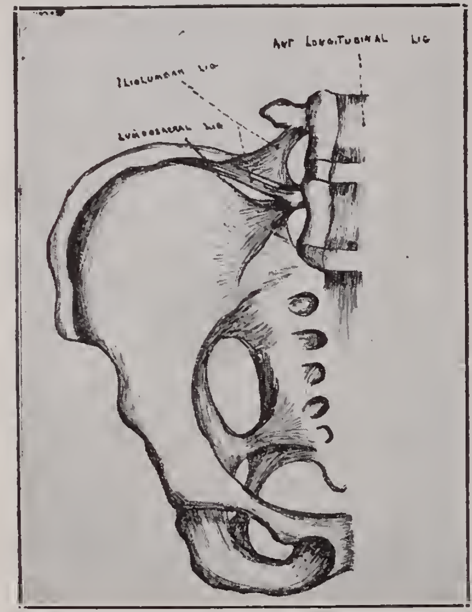

Fig. 5. Artist drawing of lumbosacral and sacro-iliac joints showing the ligaments from the front.

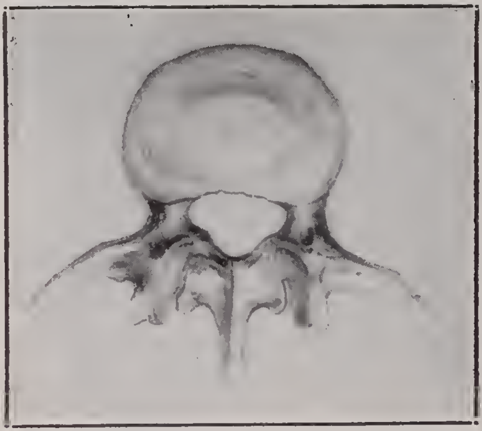

Fig. 6. Lumbar vertebrae with adjacent intervertebral disc showing circumferential fibers and nucleus pulposus.

The ligamenta flava stretch across the posterolateral aspect of the spinal canal between the laminae, being attached to the anterior aspect of the superior laminae and posterior surface of the inferior. The two ligaments of each interlaminar space fuse in the midline and extend laterally to form the posterior margin of the intervertebral foramen. The ligaments are composed of yellow elastic fibrous tissue and are normally one or two millimeters in thickness.

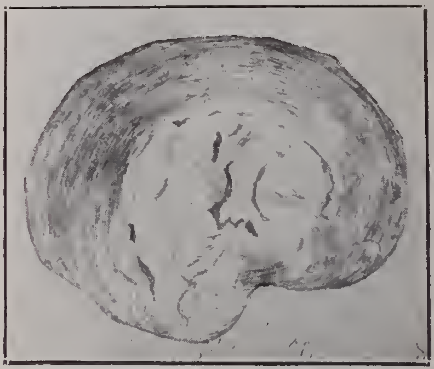

Fig. 7. Intervertebral disc showing rupture of circumferential fibers with protrusion of the substance of the nucleus polposus.

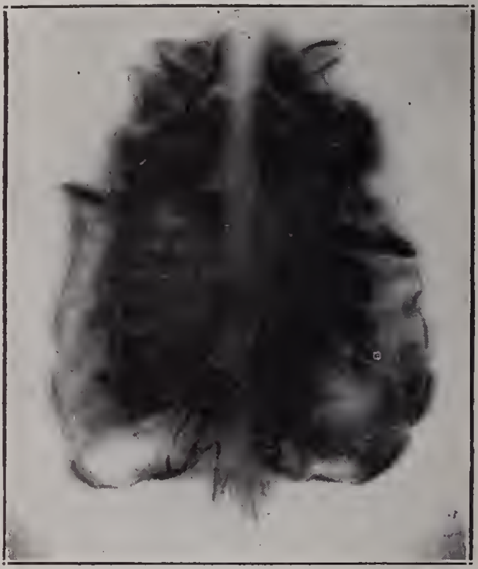

Fig. 8. Artist drawing of dural sac showing pressure on root nerve at the level of the 4th intervertebral disc as result of anterior protrusion following rupture of the disc.

The space between each of the vertebrae is occupied by a fibrocartilaginous disc. Each disc consists of two parts: the circumferential portion, and the pulpy, elastic central portion, or nucleus pulposus. The discs vary in thickness in the different parts of the vertebral column; in the lumbar region they are thicker anteriorly than posteriorly. They have been described as elastic, ball-bearing structures, changing in shape and position under functional demands; thus they distribute and absorb the mechanical shocks to which the spine is continually subjected.

In the narrow spaces between the ligamenta flava and the intervertebral discs lie the nerve roots. Even a slight enlargement of the ligament or a posterior protrusion of a disc will produce compression of the nerve roots, causing pain in the region of the injury, which may or may not radiate down the sciatic nerve. Trauma, frequently of mild degree, may injure a disc or ligament, bringing about such a condition. Pain radiating down the leg may ensue after a period varying from a few hours to several months. Sensory disturbance, i.e., numbness, "leg esthesia" is present in a certain group of cases. Usually, the symptoms are unilateral, however, they are bilateral in a limited number.

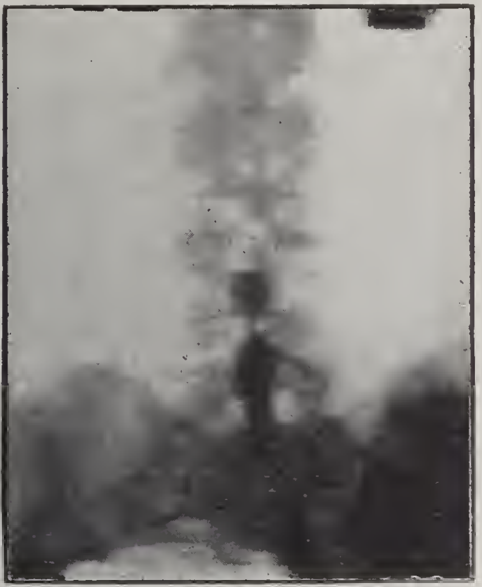

Fig. 9. Roentgenogram of lower spine. Note bilateral defect in lipoidol shadow.

A positive diagnosis of intraspinal injury can seldom be made from the history and clinical study alone; spinal puncture and lipiodol injections are required. At least five cubic centimeters of lipiodol should be injected. An increase in the total protein content of the spinal fluid of fifty milligrams per one hundred cubic centimeters of fluid is suggestive of injury. Any suspicious defect seen in the lipiodol column should be carefully checked.

The treatment of low back pain must of course be governed by the cause and nature of the symptom or symptoms. Acute pain usually subsides with enforced rest. The spastic muscles yield to traction measures. Pain from postural deviations is alleviated by fixation, splinting or bracing. Pain from intraspinal lesions may sometimes be relieved by rest in the recumbent position; in other cases, this position increases pressure on the nerve roots, accentuating the symptoms. Operative intervention is necessary in resistant cases. The technique of various operations is described in detail in the literature.

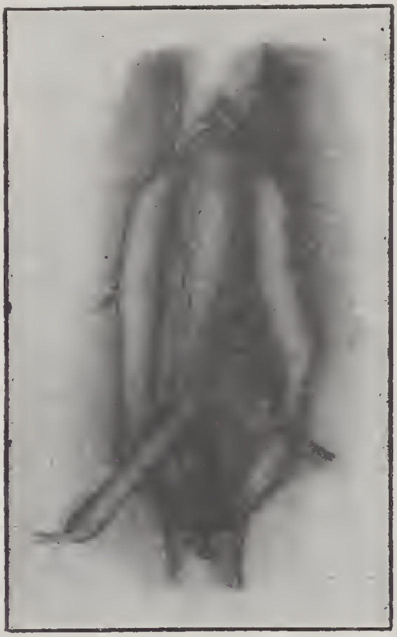

Fig. 10. Artist drawing of surgical exposure for removal of protruding intervertebral disc.

In closing allow me to quote from a lengthy article appearing in The Journal of Bone and Joint Surgery, April, 1934, by G. A. G. Mitchell, M.B., Ch.M., Lecturer in Anatomy, Aberdeen University, Aberdeen, Scotland: "The diagnosis of the cause of low-back pain and disability has always been regarded as one of the most difficult problems the clinician has to tackle, and among the many factors which militate against success not the least important is the wide-spread ignorance of the anatomy of the lower back and the mechanics of the lower spine. Our anatomical text-books devote too little attention to this extremely important region and they are particularly reticent about the lumbosacral and sacro-iliac articulations."

To treat lightly or ignore the patient who complains of low back pain usually means that he will seek relief elsewhere. One should not be too hasty in reaching a conclusion, nor should one follow the course of least resistance and allow the patient to wander from place to place in search of relief.

Treatment of the Pneumonias*

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There have been many treatments of pneumonia, among them the cold air treatment, the alkaline treatment, the aconite treatment, general bleeding, bleeding from the right circulation, cough medicines, including carbonate of ammonia, guiacol and opium, and atropine treatment, quinine, digitalis, whiskey and many others. It is a rule that where there are many treatments, there is no worth while treatment.

The general concensus of opinion, though not the unanimous one now, is that all of these treatments should be abandoned as of no value. While this is true of the use of these drugs and methods as cures or as agents for the control of the disease as such, it is not true of the use of some of them to a limited extent as aids in the control of symptoms and promoting the comfort and strength of the patient as indications arise, while the disease is being treated by specifics such as sulfapyridine, sulfanilamide and specific serums.

This discussion will be limited to treatment with sulfapyridine and sulfanilamide with a few words about specific serum treatment and not much more than a bare mention of quinine treatment.

In short, no treatment will be discussed except treatment with specifics. These we divide into organic or serum specifics and chemical specifics.

There can be no question as to the value of specific serums when properly used. They can be properly used in Rockefeller Hospital and Harlem Hospital and hospitals similarly equipped with laboratories and specially trained personnel. Under conditions that prevail in Mississippi, they can rarely be properly used. We are compelled to dismiss the subject of specific serum therapy with the opinion that with us and our patients, the use of specific serums is not practicable. If the methods of use should be greatly simplified, and the costs materially lessened, the use of specific serum should be again reviewed.

There is evidence that quinine is a chemical specific against pneumococcus infections. However, the zone between therapeutic powers against pneumococcus infections and toxic effects, of the present preparations of quinine used on the human subjects, is too narrow. Doses that are safe are too small for efficiency, and doses that are efficient are too large for safety.

We must dismiss quinine medication with the opinion that it is not practicable now and here. If newer preparations or newer methods of use of quinine in the treatment of the pneumonias are worked out the quinine treatment should be again reviewed.

SULFAPYRIDINE

For the general run of pneumonias as they are today, sulfapyridine is preferred over sulfanilamide. Should the general bacteriology of the pneumonias change radically as was the case of the influenza epidemic of 1918 when streptococcus became the predominating organism, the advisability of changing to sulfanilamide should be considered. To this end, the state and local health departments should periodically investigate the prevailing type of organism in the pneumonias and report to the profession of the state.

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*Read before the Northeast Mississippi Medical Society, Tupelo, Dec. 12, 1939.

COMBINED SULFAPYRIDINE AND SERUM TREATMENT

The tendency just now and especially in the New York, Boston region is to combine the sulfapyridine or sulfanilamide treatments and the serum treatment. This is especially true of pneumonia due to type III pneumococci. In the pneumonias of this variety, neither serum treatment nor chemotherapy has proved satisfactory. But there is moderate evidence that given together they are effective. The method of giving the combined treatment of serum and sulfapyridine will be discussed under methods of treatment.

The joint method of treatment when the infection is with an organism other than type III pneumococcus will not be discussed since it presents all the technical and practical difficulties of serum treatment and, therefore, is regarded as practical here and now.

DIAGNOSIS

A prolonged discussion of methods of diagnosis is not within the scope of this paper. We limit ourselves to a brief discussion of the suspected diagnosis which should serve as a basis for the beginning of treatment.

TREATMENT SHOULD NOT WAIT UPON A FINAL DIAGNOSIS

A fever of, say, 101 or over, quick bounding pulse, and, respiration, cough and general appearance of considerable constitutional reaction is the basis on which physicians who use the serum treatment and those who use the sulfapyridine treatment are beginning treatment. If preceding measles or whooping cough, a bad cold, a chill, rusty sputum, dusky facies, dullness or percussion, fine or subcrepitant rales, chest pains or uneasiness, or grunting respiration or x-ray shadows can be demonstrated, the physician can be more certain of his diagnosis; but, to wait for such proof is not justified, just as waiting for the typhoid state to diagnose typhoid or for the diphtheria odor as the basis for the diagnosis of these diseases is not justified. Such a policy is safe for the doctor but it is too hazardous for the patient.

As soon as the probable diagnosis has been made, blood and sputum should be taken for bacteriologic determination and it would be better also to determine hemoglobin and make a red and white cell count. Even though the other examinations must be postponed, sputum coughed from the lower bronchial tubes must be collected and sent for typing. Typing should be done even when sulfapyridine is the only specific treatment contemplated.

METHOD OF SULFAPYRIDINE TREATMENT

Start by giving 30 grains of sulfapyridine as an initial dose. Follow with 15 grains every four hours until the high fever has subsided. Then 15 grains every six hours for four to eight days after the time of going on the six-hour basis. At the present time evidence is accumulating that the length of treatment after fever subsides can be shortened.

In infants, start with a dose of 5 grains and follow with 2½ to 5 grains every 4 to 6 hours. Young infants should take the smaller dose at the longer interval, older children between 1 and 12 years of age should take from 5 to 15 grains as an initial dose and 5 to 15 grains every 4 to 6 hours according to body weight.

The end sought is to maintain a sulfapyridine level, in the blood, of 4 milligrams per 100 cc. of blood, (or six-tenths of 1 grain in each 1540 minims of blood). Both absorption into and excretion from the blood are apt to be irregular. Therefore, it is best when possible to keep track of the amount of drug in the blood.

There are three methods of doing this. None is very difficult to operate and the expense of the apparatus and material required is not prohibitive. We showed the Monroe County Society equipment for the LeMotte method. Sulfapyridine should not be given intravenously, nor subcutaneously. However, intravenous use is sometimes though rarely justified. It is better given in solution in water, fruit juice, milk, thin soup or soft food.

In case the laboratory reports that the infecting organism is type III pneumococcus or if for any other reason serum therapy is to be used in connection with sulfapyridine the serum treatment is not begun until twelve hours after the first dose of sulfapyridine or about the time the fourth dose of sulfapyridine is given.

It is advisable to give an alkali (bicarbonate of soda) when the drug used is sulfanilamide. This is not necessary or advisable if sulfapyridine is used.

BENEFITS TO BE EXPECTED

If everything goes well, principally if the drug is retained by the stomach and absorbed, the temperature drops to approximately normal in from 12 to 48 hours, usually around 24 hours. With the fall in temperature, there is an improvement in other symptoms, the pulse falls and improves in quality, the respiration rate drops and the patient feels more comfortable and more normal. However, we do not expect this return to near normal to reach quite the level reached after adequate and appropriate serum treatment. Even those who are not favorable to the use of sulfapyridine admit that when it is used the temperature falls, the patient becomes comfortable and so far as these symptoms go, the disease has been changed from an eight-day disease to a two-day disease. However, we must admit the disease has not been changed from an eight-day to a two-day disease except as to these symptoms. For there is a definite tendency to relapse and the symptoms have a tendency to resume where they left off if the treatment be prematurely stopped.

The teaching of experience is clear that once the treatment has been begun, it must not be interrupted except for reasons that will be discussed presently until the expiration of, say, 7 or 8 days, or what may be called the normal course of pneumonia.

UNPLEASANT EFFECTS OF SULFANILAMIDE TREATMENT WHICH MUST BE WATCHED FOR

Nausea and Vomiting: Something like two-thirds of those taking this pneumonia treatment suffer from nausea in varying degree. Rarely is this symptom bad enough to make it necessary to stop the specific treatment. The drug is absorbed, albeit unevenly, from the stomach and passes into the blood stream, by which it is carried in much its original chemical structure to the seat of the disease. It is excreted apparently in its original chemical structure by every excretory organ in the body. Walton's observations show that more of it is excreted by the stomach than by any other organ. This is the reason for the prominence of nausea and vomiting as symptoms even though much of the cause of vomiting is central. Much of it is excreted by the liver and much by the kidneys. This explains the jaundice, the toxic hepatitis (although studies of the liver in fatal cases show little), and the casts of sulfapyridine crystals in the kidney tubules.

TREATMENT OF THE SYMPTOM

Much thought should be given to a choice of the liquid in which the medicine is to be dissolved. Some will use beer, others wine, others coca cola, some milk, and some thin soups, some cereals or soft food.

However, the subject of possible nausea should not be mentioned to the patient. Carbonated beverages sometimes settle the stomach. It is very important not to use the stomach for any purpose except the taking of fluids and the taking of sulfapyridine. The probability is that any patient who starts his pneumonia with a cold and cough has been taking some cough medicine, some aspirin, and some purgative before the doctor was called. All these should be stopped at once. No special effort should be made to feed the patient. Foods to tempt the appetite are harmful. The patient will suffer no harm from a twenty-four hour fast. He can go for as long as seven days without food with no great harm if he gets enough fluids. However, a light diet taken without urging or craving is advisable. In some cases of nausea it is advisable to give the drug by the rectum.

CYANOSIS

At least two-thirds of the patients taking sulfapyridine will show some degree of cyanosis. While nausea and vomiting will disturb the patient most and he will be indifferent to cyanosis, the physician will be greatly alarmed by it. This symptom is not as serious as it appears to be. When it was first noted, the physicians expected dire results. It was soon found that these dire results did not follow. Then came a period in which it was thought that the apparent cyanosis was a peculiar chemical reaction due to a chemical reaction with the drug and that it was wholly unimportant. That view has been abandoned. The prevailing opinion now is that it is of some importance but not great. It appears in the first or second twenty-four hours after treatment is begun. If necessary, it can be relieved by giving one grain of methylen blue three times a day. If the physician is in doubt as to whether the cyanosis is due to the disease or the drug, let him give a few doses of methylen blue.

If the cyanosis is due to the drug, it will clear up temporarily.

GIDDINESS AND WEAKNESS

These symptoms, although frequently encountered, are of minor importance.

ACIDOSIS

This symptom may appear in the second 24 hours. If it is important enough, it can be relieved by giving bicarbonate of soda. Alkalosis may arise due to the taking of fruit juices and alkali with the drug.

While the above symptoms may be annoying, they are rarely or ever dangerous. Now follow a group that are dangerous.

Acute Hemolytic type. This appears three to seven days after the beginning of treatment. Recovery from it is to be expected. Nevertheless, it is enough of a hazard to call for close watching. Hemoglobin determinations should be made as a measure of precaution. The treatment should consist in stopping the drug, increasing the fluid intake. Transfusion is done if necessary.

Anemia—slower type. This form of anemia is liable to be a part of a composite of agranulocytosis, jaundice, splenomegaly, all evidence of liver and kidney damage.

The combination, or a part of it, is apt to appear 7 to 21 days after the onset of the treatment.

To be on guard against it, the patient must be closely watched chemically. Jaundice should be sought for, the blood should be examined for hemoglobin, red cells and white cells. The urine should be examined as to quantity, blood albumin and urobilinogen.

The treatment of the syndrome is to stop the specific remedy. The chances are that the period of treatment will have already expired. Fluids should be forced. Transfusion may be necessary. Recovery is to be expected even though the symptoms appear to forebode grave danger.

AGRANULOCYTOSIS CALLS FOR PENT NUCLEOID

Renal insufficiency and bloody urine should be watched for. Most authorities say enough fluids should be given by mouth, in the bowel, under the skin, or into the veins to keep the daily excretion of urine up to three pints. Certainly it should be kept as high as one quart daily. It has been found that the chemical has some tendency to form crystal infarcts in the tubules.

The treatment consists in giving a carbohydrate diet, giving an abundance of fluids by mouth and otherwise giving carbonated water and alkalis. However, the amount of fluid given daily should not be overdone, thus throwing an excessive amount of work on the kidneys. The trend of the present day is to give much fluid.

FEVER AND SKIN ERUPTIONS

We have noted that there is an especial tendency to nausea, vomiting and cyanosis in the first week of treatment and of anemia, agranulocytosis, kidney and liver damage in the third week.

In between these in point of time comes another combination—fever, adenopathy and eruptions. These are to be especially looked for in the second week.

The onset of the drug fever is apt to come after the fever of the disease has subsided. It is a source of great perplexity to the physician. He wonders whether it means that the disease has relapsed or whether it means that the patient has a drug fever and therefore the treatment should be stopped.

The patient should be examined for rash and adenopathy. If these are found, the diagnosis, drug fever, is confirmed.

The treatment is to stop the treatment and let the symptoms disappear spontaneously. As a rule, the symptom does not appear until it is about time to stop the drug.

OTHER TREATMENT

Oxygen: If the new methods of treatment fulfill their promises, there will not be much use for oxygen in this disease. This gas serves no directly curative purpose. It is merely an adjunct useful in meeting a need. In old treatment, it rendered magic service, even though that service was along a secondary line. If pneumonia is reduced to a 24- to 48-hour disease from a symptomatic standpoint only exceptional cases will need oxygen. It has been suggested that the cyanosis caused by sulfapyridine might call for oxygen, but that has not been proved to be the case. That cyanosis is not accompanied by air hunger.

If oxygen is to be given, it is best done by a tent. (A room being excluded.) Next in rank in this disease, is the catheter method, and that method can be used in homes, in the country. There are some newer gadgets that facilitate the use of oxygen by catheter.

The rate of flow is primarily 10 litres to the minute, presently dropped to five litres.

The oxygen used in pneumonia should not contain carbonic acid.

Fluids: Time was when febrile infections were treated without allowing any water or only a modicum. A natural reaction against this was the use of water in considerable quantities by mouth, by the Murphy drip, and finally by subcutaneous and intravenous injections. It was further to be expected that this would be overdone.

We have previously called attention to the fact that in the treatment of pneumonia, water must be given in quantities required to keep the daily discharge of urine at least as high as one quart and something above that is better still.

In a well watched case, the urine is examined daily for sulfapyridine by the method used for the blood. The proportion in the urine should be maintained at 4 milligrams per 100 cc. of urine.

A recital of the dangers of sulfapyridine of the various procedures used to guard against those dangers and the several treatments for the conditions which are caused by the treatment causes one to get an exaggerated idea both as to the dangers of the treatment and as to the technical difficulties and troubles the physician is put to in using it. If such difficulties and troubles or similar ones, are sufficient to force the conclusion that in rural and small town practice serum treatment is not practicable, is it not true that they also rule out sulfapyridine treatment?

The answer is "No." In a given case, use every test and precaution that is available. But when it comes to using the drug without any laboratory test or any other except the physician's powers of clinical observation and common sense, it is better and safer to use the drug and in full dose rather than to withhold it.

The general use of sulfapyridine as a chemical specific in the treatment of pneumonia is based on the following considerations:

1. It causes a greater reduction in the death rate than does serum, sulfanilamide or any other remedy.

2. It comes nearer being a specific for the entire group of pneumonia causative agents than is sulfanilamide, and from that standpoint it has great advantages over serum.

3. It does not require simultaneous use of an alkali as does sulfanilamide.

4. As compared with serum, it is vastly less inconvenient and less expensive.

5. In reducing pneumonia from an eight-day to a two-day disease, it is not the equal of serum but it is near enough to being so to serve all useful purposes.

6. In reducing complications, it is about in the same class with serum.

7. It is safer than serum. The ideal specific is harmless to the patient and destructive to the organism and its toxic product. It is almost ideal as a remedy that has a broad belt between the field of destructiveness to the bacteria on the one hand and harmfulness to the patient on the other.

Neither serum nor sulfapyridine has a sufficiently wide margin. But as between the anaphylaxis and allied phenomena and serum sickness, of the serum and the nausea, cyanosis, and blood liver and kidney complications of sulfapyridine, the advantage lies with the latter.

Sulfapyridine is the safest of the four methods, quinine, sulfanilamide, specific serum.

Much study is now under way as to how each remedy acts—for good and for harm. Opinions are contradictory as yet. Out of such study should come knowledge that will prove of value for both serum and sulfapyridine treatments. Greater safety, greater efficiency and possibly simpler methods of treatment.

GENERAL TREATMENT

Roger Lee says: "In May, 1939, it seems premature to discard all other therapeutic devices and measures and foolish to treat the pneumonia and not the patient." His article is worth reading. He advocates the prime importance of rest and quiet, mental, emotional and physical. He puts it above medical examinations and under-nursing. He advocates the proper and careful use of occasional doses of opiates and barbiturates to meet indications.

Care must be taken to see that the patient gets plenty of fluids and that he is not over-fed. He advises weak teas instead of strong, salted foods, soft foods, but advises against eggnog and fruit juices. Distension of the abdomen is to be kept down by enemas and by a properly controlled diet.

Digitalis and quinidin may be used if there is fibrillation.

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The Mississippi Doctor

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The journal with a vision which encourages a plan of delivering modern medicine to the masses at less cost to the individual and more profit to the practitioner. It champions the community hospital, the hub around which this service must be built.

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Mississippi State Medical Association

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Manuscripts and material for publication under the Mississippi State Medical Association should be received not later than the twentieth of the month preceding publication. Address material to Lawrence W. Long, M.D., Suite 412 Standard Life Building, Jackson, Mississippi.

THE MISSISSIPPI CHAPTER OF THE AMERICAN COLLEGE OF SURGEONS

The active members of The American College of Surgeons located in Mississippi have seen fit to organize themselves into a Chapter for the benefit of the profession in general, and more particularly, to raise the standards of surgery and the standards of the hospitals in which this surgery is done in Mississippi. Of course, The American College of Surgeons nationally has made great strides in raising the standards of the surgeon and the hospital, but it was felt by the group which met to organize this Chapter that by personal contact and discussion of the problems as they arise in Mississippi, that we could meet the problem much better than attempting to discuss it in the national meeting or the sectional meeting.

On January 17 the section meeting of The American College of Surgeons, composing the Southeastern states, met in New Orleans for an excellent meeting well attended, and during this meeting the Mississippi Chapter was called together by its president, Dr. E. C. Parker, of Gulfport, and new officers were elected and attempts made to further the cause of surgery in Mississippi.

The Monday before the state medical meeting, which will be held in Jackson, Mississippi, this year, the Mississippi Chapter of The American College of Surgeons will meet. It will attempt to hold its first annual session of a clinical nature, and though many problems will and have confronted it, it is anticipated that through this medium the standards of the medical profession of Mississippi, and particularly the surgeons, will be raised higher. All members of the medical profession of the Mississippi State Medical Association will be invited to attend this clinical meeting with two ideas in view: first, to raise the standards of the seventy members of The American College of Surgeons in Mississippi; and second, to attempt to improve the medical profession in general by so doing. It is hoped that these aims will be met and for that reason your editor, who is also the secretary of the Mississippi Chapter of The American College of Surgeons, calls your attention to this fact.

—L. W. L.

FROM THE PRESIDENT

Mid-South Postgraduate Medical Assembly

As president of the Mid-South Postgraduate Medical Assembly I wish to extend to each doctor under its jurisdiction a most hearty invitation to attend the fifty-fifth annual meeting of this assembly February 13, 14, 15 and 16, 1940, at the Peabody Hotel in Memphis.

Deep interest in the meeting has already been awakened and it seems fair to estimate the largest attendance the Mid-South has ever had. Plans are well organized for the meeting and arrangements are being made for scientific and social interests. The four days' program presented at this meeting provides the highest type of postgraduate instruction attainable and for the very minimum fee of $5.00. The program is unique in that it appeals to the general practitioner and specialist alike as eminent men from all parts of this country are to bring phases of general medicine as well as medical and surgical specialties. Those of you who have attended these meetings can attest to their inestimable value not only from a professional standpoint but as offering an opportunity to enjoy good fellowship and the superb hospitality always received in Memphis.

Come along to the Mid-South and enjoy an unusual treat in spending these few days with us.

Very sincerely yours,
H. Fay H. Jones, President Mid-South Postgraduate Medical Assembly.

MISSISSIPPI'S HOSPITAL SYSTEM

Mississippi has five state-owned hospitals—actually six counting the one at Ole Miss. In addition to these hospitals we have a per capita distribution which permits patients to go to privately owned hospitals and hospitals built by philanthropy. Our state has about one hundred hospitals. With an improved distribution of our hospitals and with some wise consolidations in the interest of efficiency and economy, we might do quite as well on a few less than we now have. However, Mississippi is moving in the right direction, medically speaking. The fine distribution of hospitals the state has, and the system we have of a per capita distribution of funds carries medical service by way of the small hospital to the people in the most remote sections of our state. This fund really enables these small hospitals to live and serve. The small hospitals not only provide the people of the most remote sections with medical service, but are the great means in elevating the efficiency average of the medical profession. Under this system a very large percentage of the medical profession can treat their own cases all the way through. Hence, there is less interference with the relation of the doctor and the patient. It is more economical than to have a few large hospitals. The charity patient must have service near home if he is to be benefited satisfactorily. Give us one central hospital which will be a clearing house, and which will enable us to offer a first class internship; then put the rest of the state on an equal footing with a per capita distribution of funds without any zoning, and Mississippi will have the best hospital set-up from every standpoint that is in the world today.

The time of the meeting for the Mid-South Postgraduate Medical Assembly in Memphis, at the Peabody Hotel, is now at hand. Do not fail to attend if it is at all possible for you to do so. The essayists on the program are all men who can speak with authority on the subjects they discuss. The specialists in our territory cannot afford to miss them, neither can the practitioners. This four-day postgraduate course is unique and very valuable. The Mid-South has set the pace for this type of assembly, which is being followed by others seeing its value. The papers read at the Mid-South are valuable for the specific information they bring and also for the broadening influence they exert. The roundtable luncheons give an opportunity for very close contact between the essayists and members attending. There is a need for a better understanding and closer co-operation between the practitioner and the specialist. The Mid-South offers a wonderful opportunity in this respect. If you attend this meeting and hear each and every paper you will be personally benefited and your clientele will be very much better served during the year. The people of Memphis are friendly, cultured and cordial and so is the medical profession. This city is rapidly growing as a medical center, the medical school gaining prominence as notably as many members of the medical profession who are achieving national reputations.

If you know a doctor who has been so engrossed in his professional business that he has not found time to push out in the current of organized medicine which has its headquarters in Memphis at the Peabody Hotel every February under the caption of the Mid-South Postgraduate Medical Assembly, lasso him and bring him on in. We will then have no further trouble; he will always come back.

The Memphis Medical Journal of February has some fine discussions on socialized medicine.

You will note in this issue of the journal the program, place and time of meeting of the American Academy of Pediatrics. The Academy is certainly doing us an honor to hold its regional meeting at the Edgewater Gulf Hotel down on the front playground of the Magnolia State, which is rapidly becoming more widely known and favored. Dr. Harvey F. Garrison, Sr., of Jackson, Miss., is the chairman of the American Academy of Pediatrics for Mississippi. No doubt his influence played a big part in bringing this group to our state, along with Dr. Strong of the Gulf Coast and New Orleans. At this meeting Dr. Garrison is to discuss "Nutritional Anemia in Children." This meeting will no doubt be an inspiration to the pediatricians of our state who are rapidly gaining national recognition, Dr. Garrison having been elected chairman of Section on Pediatrics at the last meeting. It will be good for many practitioners to attend this meeting. We deeply appreciate the Academy coming to our state to hold this session. Let us extend a cordial welcome by attending the meeting if possible.

We plan to publish all the papers of the Mid-South in the first three months after the meeting. We have observed that the doctors like to have the papers come out as soon as possible after they hear them read. In less than fourteen years THE MISSISSIPPI DOCTOR has grown from fourteen pages to a hundred, and the monthly circulation from about three hundred to about sixteen hundred. The subscription price is only $1.00—a price so low that the poorest practitioner may have it to read. It covers quite well the field of medicine, papers being supplied by the country practitioner on up to the super specialist. It has tried to help develop rural medicine and at the same time show the importance of co-operation between the small hospital and the large, the practitioner and the specialist. Send in your subscription at once if you do not want to miss any of the Mid-South papers. You will not find any in any journal better. We appreciate you as a reader.

We are delighted to welcome to our desk the North Carolina Medical Journal which comes as Vol. I, No. 1, and has as its editor the brilliant and distinguished Dr. Wyngate M. Johnson. It emerges with sixty-four pages of reading matter and a fine lot of advertising. J. Buren Sidbury, of Wilmington, leads with an able discussion on "The Doctor and Socialized Medicine." Dr. Rock Slyster, President of the American Medical Association, Dr. Nathan Van Etten, President-elect, Dr, Fishbein, and Dr. Olin West, join in with their most cordial greetings. If No. 1 is to set the pace, then North Carolina is to have a very fine journal.

Medical journals could hardly be published without advertisers. Biological houses and those who supply instruments, etc., have their part to play in the application of medical service. They and the medical profession should work together in the interest of the people. We think, as a rule, they do. We deeply appreciate our advertisers and it seems to us that the medicines of the firms who advertise with us just give better results. Everything else being equal, we will thank our readers and our friends to buy from the firms which advertise with us. This would be a service that would leave you none the poorer, yet aid us much indeed.

We regret very much that we were unable to attend the quarterly meeting of the North Mississippi Medical Society which met at the University on February 7. The program was put on by the State Board of Health, the essayists being Drs. Gray, Galloway, Ricks and Underwood and Miss Byrd. Dr. A. H. Little is the very efficient secretary of the North Mississippi Medical Association, Dr. D. C. French of Water Valley, the president.

We deeply appreciate the invitation of Dr. A. V. Beacham of Magnolia and his brothers of New Orleans to attend the dedication of the Magnolia Clinic on December 17. Dr. Rudolph Matas of New Orleans was the principal speaker of this occasion. His address will be published in the March issue of THE MISSISSIPPI DOCTOR along with the picture of the clinic with the local write-up.

THE MISSISSIPPI DOCTOR is only one dollar per year. Subscribe now so as to get all the Mid-South papers. It would be fine to send it to some friend for a year.

Indeed, it does seem that we should have a Secretary of Health in the President's cabinet.

President of the Mid-South Postgraduate Medical Assembly

Herbert Fay Hempstead Jones, A.B., M.D., F.A.C.S., Little Rock, Arkansas, is a native of the state of Arkansas, born February 14, 1897, in the town of Charleston, and is the son of the late Dr. William Enoch Jones, prominent physician, and Mrs. Annie Phoebe East Jones of Little Rock, Arkansas. He received his early education from the public schools of Paris, Arkansas; graduated from the Paris High School; attended Little Rock College, Little Rock, Arkansas, where he received the degree of Bachelor of Arts; then entered the Medical Department of the University of Arkansas at Little Rock where he received the degree of Doctor of Medicine in 1918; served his internship in the Pulaski County Hospital of Little Rock; majored in urology in a postgraduate course in Chicago; and completed postgraduate courses in Paris, France, and London, England. He launched his professional career in the city of Little Rock, during June, 1918, where he has served continuously and successfully, now serving as specialist in urology. He is serving as chief of the department of urology at the Baptist State Hospital, as consulting urologist at the United States Veterans Hospital No. 78, North Little Rock, Arkansas, as Professor of Urology in the University of Arkansas Medical School, and has served as Chief of the Department of Urology at Saint Vincent's Infirmary. Dr. Jones enjoys the distinctive fellowship of the American College of Surgeons, Governor of the College for Arkansas, and has held the commission of First Lieutenant, Medical Corps, United States Naval Reserve. Is a fellow of the Pulaski County Medical Society, the Arkansas State Medical Association, the American Medical Association, the American Urological Association, and an honored fellow of the Mid-South Postgraduate Medical Assembly, serving as president. He is a member of the Phi Rho Sigma Medical Fraternity, the Episcopal Church, the Masonic Lodge, a Thirty-second Degree Mason, a Knight Templar and a Noble of the Mystic Shrine. He married Miss Edna Marie Penick, daughter of the late Edward Moore Penick, merchant, and the late Mrs. Elisa Jay Graham Penick of Little Rock, Arkansas, on June 15, 1922, and they have two children, daughters, Edna Marie Jones, born March 21, 1927, and Elizabeth Ann Jones, born May 11, 1931. The doctor has contributed many scientific papers to his medical societies for the history of Arkansas medicine, which have been carried in various medical journals: "Calcified Renal Cysts" in The Urologic and Cutaneous Review; "Management of Ureteral Calculi" in the Southern Medical Journal; "Renal Infections Complicating Pregnancy" in the Arkansas Medical Journal; "Urogenital Tuberculosis" in the Arkansas Medical Journal; "Management of Urinary Tract Infections" in the Tri-State Medical Journal; "Transurethral Prostatic Resection" in the Arkansas Medical Journal; "Backache from the Urological Viewpoint" in the Urologic and Cutaneous Review; "Tumors of the Urinary Bladder" in the Tri-State Medical Journal, and others. His hobby is his profession and his favorite recreation and pastime is golf.

Dr. Jones has high ideals of medical ethics. He loves the profession, is a true and fine leader in organized medicine. We know that his native state feels great pride in his success. He will preside over the annual meeting efficiently and with dignity.

President-Elect

DR. JAMES LYNN DUNAVANT
RIPLEY, TENNESSEE

Dr. James Lynn Dunavant of Ripley, Tennessee, president-elect of the Mid-South Postgraduate Medical Assembly. He is the son of Dr. and Mrs. O. R. Dunavant. Received his early training in public and high school of his county. Graduated in medicine in 1918 after first taking two years of college work. He immediately became affiliated with organized medicine and has been active in his leadership during his entire professional life, having served his local society in almost every official capacity and his state society as vice-president. He takes a very active interest in civic and church affairs, is a member of the Methodist Church and is a Mason. He is a great lover of golf and football for pastime. Dr. Dunavant really loves the practice of medicine as a professional man and loves to do good to his profession and to all people. He may be fully depended upon to make a fine president of the Mid-South Postgraduate Medical Assembly.

DR. G. S. BRYAN
AMORY, MISSISSIPPI

Dr. G. S. Bryan, of Amory, Mississippi, vice-president of the Mid-South Postgraduate Medical Assembly. "What a man is speaks so loud you cannot hear what he says," proclaimed one philosopher. What G. S. Bryan has done, is doing and will do for organized medicine is so well known by the people of the Mid-South that it does not behoove us to say much about him. He is one of the pioneers in surgery and he did it well in the early days. He has been active in public health work and in general practice. He is one of the best read men in medicine in the South. He has seen much service in organized medicine in Mississippi, having served for a number of years on the State Board of Health and also as president of the Mississippi State Medical Association. Whenever the duties of organized medicine have called he has always been present armed with information and wisdom. He is now making a close study of medical economics, searching for medical security. When he is through, no doubt, his opinion will be worth listening to.

DR. CHARLES HARTZELL LUTTERLOH
HOT SPRINGS, ARKANSAS

Charles Hartzell Lutterloh, B.S. (Med.), M.D., 236 Central Avenue, Hot Springs, Arkansas. Graduated Tulane University of Lousiana School of Medicine, 1921. Member of Staff, St. Joseph's Hospital; Member of Staff, Ozark Sanatorium; Attending Physician, Leo N. Levi Memorial Hospital and Charles Steinberg Clinic; Fellow of American College of Physicians, 1932; Diplomate, American Board of Internal Medicine, 1937; Member American Rheumatism Association, 1938.

Dr. Lutterloh, who is vice-president of the

Mid-South Postgraduate Medical Assembly, has already rendered a fine service in organized medicine; has made a rapid progress in climbing the ladder of success and he is yet rather young in the game. He has the fine ideals of medical leadership that you find among so many of the profession in Arkansas.

DR. J. P. BAIRD
DYERSBURG, TENN.

Of the three vice-presidents of the Assembly, Dr. Baird represents Tennessee. Born Jan. 10, 1877, in Marionville, Mo. Graduated from Marionville Methodist College in 1896. Served the usual apprenticeship, at that time customary, for prospective medical students. Had army service in the Phillipines 1898-99. Graduated from Barnes Medical College, 1904.

Located and did general and surgical practice in Marionville, Mo., for ten years; built and operated a private hospital.

Located in Dyersburg, Tenn., in 1914, helping to organize the present Baird-Brewer Hospital, and limited practice entirely to surgery. Is a member of the regular county, state, Mid-South and American Medical societies, the American College of Surgeons. He is also president of the West Tennessee Medical Society.

DR. A. F. COOPER
MEMPHIS, TENN.

Dr. A. F. Cooper, secretary-treasurer of the Mid-South Postgraduate Medical Assembly, has been very active in organized medicine all his professional life. Dr. Cooper is a Ph.D. in the technique of secretaryship. He has a special knack of seeing and attending to every detail during the procedure of the meeting. He is a good judge of a man who "goes over" at the meeting.

DR. GILBERT J. LEVY
MEMPHIS, TENN.

Dr. Gilbert Levy has rendered a wonderful service for the Mid-South Postgraduate Medical Assembly. During the last twelve or fifteen years he has had charge of the exhibits looking after space and securing exhibitors throughout the nation. No man in the South is better suited to this than Dr. Levy. He is a fine diplomat in handling the people. The exhibitors have been very largely responsible for the big success of the Mid-South, having furnished largely the finances of the association. Every doctor in the South who enjoys the great benefits of this wonderful medical assembly should feel very grateful to Dr. Gilbert Levy for the fine part he has played.

DR. J. P. WALL
JACKSON, MISS.

Dr. James Percy Wall was born in Magnolia, Mississippi, June 25, 1878. He received his M.D. degree from Columbia University College of Physicians and Surgeons in 1907. Besides an overseas career with the Medical Corps of the U. S. Army, 1918-1919, Dr. Wall has spent most of his time in active practice in Jackson, Mississippi. He is attending surgeon, Mississippi State Charity Hospital and Baptist Hospital, Jackson, and consulting surgeon, Mississippi State Tuberculosis Sanatorium. His memberships include the Central Medical Society, Mississippi State Medical Association and American Medical Association (F.A.C.S.). He was the first speaker of the House of Delegates of the Mississippi State Medical Association, which position he held for six years. He is sound in his thinking and ideals, a thorough student of literature as well as medicine, earnest and considerate, and a ready and fluent speaker.

During his tenure of office he is putting in time in and out of season promoting the following: continued development of the statewide hospital plan; adequate appropriations for the support and maintenance of the state charity hospitals; selection of charity hospital superintendents by the same recommendations required by the state board of health; establishment of a large centrally located hospital, to become a clearing house for difficult cases referred from other hospitals; enactment of an anti-barbituric law; more accurate vital statistics records, as concerning the reports "death without help of a doctor."

DR. ALBERT S. BUCHANAN
PRESCOTT, ARKANSAS

Dr. Albert S. Buchanan of Prescott, Arkansas, is president of the Arkansas Medical Society. Dr. Buchanan is a native of Prescott, having been born there January 18, 1881. Received his medical education from the University of Arkansas School of Medicine and graduated in 1905. His postgraduate work carried him to New York, London, Mayo Clinic and Tulane University. He and his brother, Dr. Gilbert A. Buchanan, founded a hospital in their home town in 1913. It is now known as the Cora Donnell Hospital and Dr. Albert S. Buchanan is still in charge. He has served as president of the Nevada County Medical Society, Tri-County Clinical Society, and is a fellow of the American Medical Association, and a member of the American College of Surgeons. For eight years he served as secretary of the State Medical Board of the Arkansas Medical Society. He is active in civic affairs and sports, having served as president of Rotary Club and Prescott Athletic Association. He is an active member of the Presbyterian church. Dr. Buchanan was married to Miss Ethel Tompkins in 1908. They have two daughters. Arkansas no doubt feels a great pride in this noble son who is rendering such fine service in his profession and is so active in other affairs that help to build and sustain a nation. The State Association did honor to itself in honoring Dr. Buchanan.

DR. WILLIAM OSCAR BAIRD
HENDERSON, TENN.

Dr. William Oscar Baird of Henderson, Tennessee, president of the Tennessee State Medical Association. Dr. Baird, a native of Henderson, received his medical degree at the University of Louisville. He is well fortified with literary training. He has also had plenty of postgraduate work at Harvard University, University of Pennsylvania, New York, New Haven, New Orleans, St. Louis and Vienna and varied experiences in medicine that make him one of the most versatile men the medical profession has in the Mid-South. He is not only very active in organized medicine but takes a leading role in all civic affairs. He is one of Henderson's outstanding citizens. His genial personality is a big asset to him. Dr. Baird was married in 1911 to Miss Myrtle Wardlow, Ripley, Miss. His son, William, is now studying medicine.

THE FOLLOWING essayists will address the fifty-fifth session of the Mid-South Postgraduate Medical Assembly. Make your plans to hear as many of these men as possible, not forgetting the luncheon hours.

DR. WILLARD R. COOKE

Galveston, Texas

B.A., University of Texas, 1910; M.D., University of Texas, 1912; Rotating Interneship, John Sealy Hospital, 1912 to 1913; Instructor, Obstetrics and Gynecology, University of Texas, 1913 to 1921; Associate Professor, Obstetrics and Gynecology, University of Texas, 1921-1924; Professor and Head of Department of Obstetrics and Gynecology, University of Texas; Obstetrician and Gynecologist in Chief, John Sealy Hospital, 1924 to date. Fellow, American College of Surgeons, 1922. Fellow, Texas State Association Obstetrics and Gynecology, President, 1931. Vice-President for Gynecology in the Pan-American Medical Association, 1933. Fellow, American Gynecologic Society. Fellow, Texas Surgical Society, Vice-President, 1935. Fellow, Central Association Obstetricians and Gynecologists, President, 1937. Fellow, American Association of Obstetrics and Gynecology, Vice-President 1937.

Time: February 13, 10:00 A.M.

Subject: The Diagnosis and Management of Various Types of Dystocia.

DR. WILLIAM S. MIDDLETON

Madison, Wis.

M.D., University of Pennsylvania, 1911; Internship, Philadelphia General Hospital and Babies Hospital, Philadelphia, 1911-1912. Since that time University of Wisconsin Medical School in the several ranks from Instructor in Clinical Medicine to Professor of Medicine. Dean, University of Wisconsin Medical School since 1935. This tenure of service in the University of Wisconsin Medical School was interrupted only by military service during the World War with the British Expeditionary Force and American Expeditionary Force, 1917-1919.

Time: February 13, 11:00 A.M.

Subject: Some Therapeutic Experiences.

DR. REGINALD FITZ

Boston, Mass.

Lecturer on History of Medicine, Assistant to the Dean, Harvard Medical School. Harvard, A.B., 1906; M.D., 1909. Member staff Mayo Clinic, 1920-22; Associate Professor of Medicine, Harvard Medical School, 1922-36. Lecturer History of Medicine since 1936. Director Evans Memorial, Boston, since 1936. Wade Prof. Med., Boston Univ. Sch. of Med., since 1936. Member Council and Hospitals since 1936. Member Council on Medical Education and Hospitals A. M. A.

Time: February 13, 2 p. m.

Subject: Hypertension and Its Peculiarities.

DR. H. EARLE CONWELL

Birmingham, Ala.

Dr. Conwell is co-author of the textbook, "The Management of Fractures, Dislocations and Sprains," and also has published many articles on the treatment of fractures and their complications. He served with the Orthopedic Unit of the British Army Medical Corps 1917-18-19. Consulting Orthopedic Surgeon for the Tennessee Coal, Iron and R. R. Company, Employees Hospital, American Cast Iron Pipe Company, Birmingham, Alabama. Is Visiting Orthopedic Surgeon to Saint Vincent's Hospital, South Highlands Infirmary, Children's and Crippled Children's Clinic, Birmingham, Alabama. Is president Clinical Orthopedic Society.

Time: February 13, 3:00 P.M.

Subject: Compression Fractures of the Spine.

DR. ALBERT D. KAISER

Rochester, N. Y.

Associate Professor of Pediatrics, University of Rochester School of Medicine, Chief of Pediatrics, Rochester General Hospital. Attending Pediatrician, Convalescent Hosp. for Children; President Rochester Academy of Medicine; President Public Health Nursing Ass'n. Hon. Pres. Rochester Tuberculosis and Health Ass'n., Secretary Section on Pediatrics, A. M.A., Fellow Amer. Acad. of Pediatrics; A. P. H. A.: Capt. Medical Corps, U .S .Army, 1917-19, France. Author: "Children's Tonsils, In or Out."

Time: February 13, 4:00 P.M.

Subject: Relation of the Tonsils to Infections in Children.

DR. FRANCIS G. BLAKE

New Haven, Conn.

Following graduation from the Harvard Medical School in 1913, Dr. Blake was Medical House Officer, Assistant Resident Physician and Resident Physician at the Peter Bent Brigham Hospital in Boston until September 1916. During 1916-17 was a Moseley Traveling Fellow from Harvard working at the Hospital of the Rockefeller Institute in New York City. From 1917-19, Assistant Professor of Medicine at the University of Minnesota. Most of this time was on leave of absence from February, 1918, to September, 1919, as Captain of the Medical Corps in the Army. 1919 to 1921 was again on the staff of the Hospital of the Rockefeller Institute. In 1921 came to New Haven as John Slade Ely Professor of Medicine at the Yale Medical School and Physician-in-Chief at the New Haven Hospital where he has been since, becoming Sterling Professor of Medicine in 1927.

In 1938 Dr. Blake was chairman of the Section on Practice of Medicine for the A. M. A. Was president of the American Society for Clinical Investigation, 1931, and of the American Association of Immunologists in 1935.

Time: February 13, 8:00 P.M.

Subject: The Chemotherapy of Pneumonia.

CHARLES GORDON HEYD

New York, N. Y.

Surgeon; born Brantford, Ont., Canada, August 27, 1884; obtained preliminary education Brantford Collegiate Institute; B.A., Cum Laude, Univ. of Toronto, 1905; M.D., Univ. of Buffalo, 1909.

Interneship at New York Postgraduate Medical School and Hospital; resident surgeon, New York Postgraduate Hospital, 1912-1914;

Adjunct Professor of Surgery, N. Y. Postgraduate Medical School, 1914-1917.

Served in France in World War as Captain, Base Hospital No. 8, A. E. F.; as Major, Commanding Office, Mobile Hospital No. 7, with service on all American Fronts, as well as detached service with the British Expeditionary Forces and with Autochir No. 1 French Army. Legion of Honor, France.

Returning to the United States in 1919, became Professor of Surgery, New York Postgraduate Medical School, and Attending Surgeon, New York Postgraduate Hospital; Consulting Surgeon to Woman's Hospital, New York City.

Member of the following medical societies: Fellow, American College of Surgeons; American Medical Association; American Association of Gastroenterologists; International Society of Gastroenterology; Medical Society of the State of New York; Medical Society of the County of New York.

Been successively: Vice-President of the American College of Surgeons, President of the American Medical Association, President of the Medical Society of the State of New York, President of the Medical Society of the County of New York; Treasurer, Medical Society of the State of New York.

Time: February 13, 9:00 P.M.

Subject: The Mortality Factors In 4,000 Operations on the Biliary System.

DR. F. H. FALLS

CHICAGO, III.

Professor of Obstetrics and Gynecology, University of Illinois College of Medicine. On staff, Grant Hospital; consulting obstetrician, Augustana Hosp., Swedish Covenant Hosp., Norwegian Deaconess; consulting gynecologist, Chicago State Hosp.; Elgin State Hosp., Kankakee State Hosp., Manteno State Hosp., Women's State Reformitory. Author many articles.

Time: February 14, 9:00 A.M.

Subject: The Use of Anesthesia in Obstetrics with Special Reference to the use of Local Anesthesia.

DR. HENRY B. ORTON

NEWARK, N. J.

Otorhinolaryngologist. M.D. Jefferson Medical College. He is clinical professor of rhinolaryngology at the New York Polyclinic.

He holds many important affiliations with hospitals. His articles and contributions to medical literature have been noteworthy.

He is past vice-pres. Amer. Lar. Rhino. and Oto. Soc., past pres. Amer. Bron. Soc., past state ch. Jeff. Med. Coll. Alumni Ass'n., past pres. Practitioner's Club, past pres. New York Bronchoscopic Club.

Time: February 13, 10:00 A.M.

Subject: Deep Infections of the Neck.

DR. RUSSELL M. WILDER

ROCHESTER, MINN.

Professor of Medicine and Chief of the Department of Medicine, The Mayo Foundation, University of Minnesota, and Head of Section in the Division of Medicine, The Mayo Clinic. Editor of "Archives of Internal Medicine."

Time: February 14, 11:00 A.M.

Subject: Hyperinsulinism; Definition and Diagnosis.

LAWRENCE S. KUBIE, M.D.

NEW YORK, N. Y.

Born New York City, March 17, 1896; A.B., Harvard, 1916; M.D., Johns Hopkins Medical School, Dept. of Physiology, 1924-1926; Rockefeller Institute for Medical Research, 1926-1928; travelling fellowship under the Rockefeller Foundation, 1926, and under the National Research Council in 1928-30 for work in neurology, neuropathology, psychiatry, and psychoanalysis; Associate in Neurology, N. Y. Neurological Institute in the Department of Neurology in the College of Physicians and Surgeons, 1930 to date.

Time: February 14, 2:00 P.M.

Subject: Psychiatry in the General Hospital and in General Practice.

DR. PERRIN H. LONG

BALTIMORE, MD.

Associate Professor of Medicine, Johns Hopkins University Medical School of Hygiene and Public Health; Associate Physician, Johns Hopkins Hospital and Consulting Physician to the Sydenham Hospital, Baltimore, Maryland.

Time: February 14, 3:00 P.M.

Subject: The Clinical Use of Sulfanilamide and Sodium Sulfapyridine.

DR. R. B. CATTELL

BOSTON, MASS.

Surgeon to the Lahey Clinic and New England Deaconess and New England Baptist Hospitals.

Time: February 14, 4:00 P.M.

Subject: The Management of Ulcerative Colitis.

DR. GILBERT SMITH

BROOKLINE, MASS.

Dr. Smith graduated from the Harvard Medical School in 1908. Surgical intern at the Massachusetts General Hospital 1908 to 1909. During the following ten years was assistant to Dr. Franklin G. Balch, who was one of the best perineal prostatectomists in Boston, to Dr. Hugh Cabot and to Dr. Arthur Chute. He has been a member of the urological dept. of Mass. Gen. Hosp. since its inception in 1911. Is now chief of the urological service, also urologist at the Palmer Memorial Hospital and for a number of years urologist to the Huntington Memorial Hospital, which is a hospital particularly devoted to the study and treatment of cancer.

He is a past president of the American Urological Association and of the American Association of Genito-Urinary Surgeons, and a member of the International Urological Society.

Time: February 15, 9:00 A.M.

Subject: Disorders of the Bladder in Women.

DR. HENRY M. GOODYEAR

CINCINNATI, OHIO

M.D., Northwestern University, 1915; Assistant Professor of Otolaryngology, Cincinnati University College of Medicine; Assistant Director (Otology) Otolaryngology Cincinnati General Hospital; Associate Otolaryngologist, Cincinnati Children's Hospital; Attending Otolaryngologist, Christ Hospital.

Fellow American Laryngological Society, American Otological, American Academy of Ophthalmology and Otolaryngology, American College of Surgeons.

Time: February 14, 10:00 A.M.

Subject: Factors of Importance to Medical Men in General from the Field of Ear, Nose and Throat.

DR. LAY MARTIN

BALTIMORE, MD.

Associate in Medicine, Johns Hopkins University.

Time: February 15, 11:00 A.M.

Subject: Prolonged Partial Obstruction of the Small Intestine.

QUITMAN U. NEWELL

St. Louis, Mo.

Born at Uhester, Ala., June 14, 1886.

M.D., University of Alabama School of Medicine, 1911; Interne, Washington University Hospital, 1911-1912; Resident Obstetrician and Gynecologist, Washington Hospital, 1912-1914; Assistant in Clinical Obstetrics and Gynecology, Washington Univ. Medical School, 1914-1921; Instructor, 1921-1925; Asst. Professor, 1925-1933; Associate Professor, 1933-1936; Professor, 1936; Asst. Surgeon, Surgeon and Chief of Gynecological Out-Patient Clinic, Washington University Dispensary, 1914-1932; World War, December, 1917, to June, 1919, Captain Evacuation Hospital, No. 18.

Present Status

Professor of Clinical Obstetrics and Gynecology, Washington University Medical School. Member of Staff: Barnes, St. Louis Childrens, St. Louis Maternity, St. Luke's, Missouri Baptist, and Missouri Pacific Hospitals.

Besides various memberships and offices in medical organizations, he is the new president-elect of the Southern Medical Association.

Time: February 15, 2:00 P.M.

Subject: Some Remarks on the Treatment of Retrodisplacement and Prolapse of Uterus.

DR. MAURICE B. VISSCHER

Minneapolis, Minn.

University of Minnesota, Minneapolis, Minn. Physiology. A.B., Hope Col., 22; M.S., Minnesota, 24, Ph.D. 25, M. D., 31; From fellow to asst. prof., Minnesota, 22-25; nat. research fellow med, Univ. Col. London, 25-26; Chicago, 26; prof. physiol. and head dept, col., med. Tennessee, 27-29; prof. physiol. and pharmacol, Southern California, 29-31; physiol. col, med. Illinois, 31-36; prof. physiol. and head dept., Minnesota, 36-A.A; Physiol. soc.; Soc. Exp. Biol.; Chem. Soc. Mechanical factors concerned with the effect of respiration on circulation; energy exchanges in the heart; kinetics of anaerobic recovery in contraction; sources of energy for muscle contraction; distribution of electrolytes in dynamic equilibria in biological systems; physiology of secretion, mechanism of digitalis action.

Time: February 15, 3 P.M.

Subject: Heart Failure as a Physiological Problem.

DR. HENRY W. CAVE

New York City

Attending Surgeon at The Roosevelt Hospital; Assistant Clinical Professor of Surgery, Columbia University.

Time: February 15, 4:00 P.M.

Subject: Medical and Surgical Management of Diverticulitis of the Colon.

DR. RALPH M. TYSON

Philadelphia, Pa.

Pediatrician to the Pennsylvania Hospital and also the St. Christopher's Hospital for Children. Chairman of the Pediatric Section of the Pennsylvania State Medical Society and Chairman of the Neonatal Study Committee of the City of Philadelphia. Member of the Board of Directors of the Philadelphia Child Health Society. Author: "Problems in Infant Feeding," "Certain Significant Aspects of Childhood Tuberculosis," "Calcinosis Interstitialis Universalis, Report of a Case with Improvement," etc.

Time: February 16, 9:00 A.M.

Subject: Blood Dyscrasias in Infancy and Childhood.

DR. DERRICK T. VAIL, JR.

CINCINNATI, OHIO

In his paper Dr. Vail deals with ocular proptosis from a clinical point of view and the points can be better emphasized with lantern slides.

B. A., Yale, 1919; M.D., Harvard, 1923; Diploma Ophthalmology, Oxford, England, 1927.

Director of the Department of Ophthalmology, Children's Hospital, Cincinnati General Hospital.

Attending Ophthalmologist, Christ Hospital, Good Samaritan Hospital, Consulting Ophthalmologist, Hamilton County Chronic Disease Hospital.

Fellow A. M. A.; Secretary of the Section in Ophthalmology, 1938 to date.

Member of the editorial staff of the American Journal of Ophthalmology; member of the American Ophthalmological Society and American Academy of Ophthalmology and Otolaryngology.

Trustee of the Society for Research in Ophthalmology.

Vice-President, American Orthoptic Council.

Time: February 15, 10:00 A.M.

Subject: Ocular Proptosis.

DR. ROBERT G. TORREY

PHILADELPHIA, PENN.

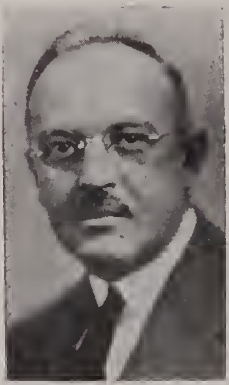
Dr. Torrey is a graduate of the University of Pennsylvania Medical School; Professor of Medicine at the Woman's Medical College of Pennsylvania; Associate in Medicine at the University of Pennsylvania and Visiting Physician to the Philadelphia General Hospital.

Time: February 16, 11:00 A.M.

Subject: Hepatic Cirrhosis.

DR. ROY SCOTT

CLEVELAND, OHIO



Professor of Clinical Medicine, Western Reserve University, Physician-in-Chief, the Cleveland City Hospital. Member Society for Experimental Biology and Medicine, American Society for Clinical Investigation Ohio State Medical, A. M. A., American Heart Association (Director). Author of numerous articles.

Time: February 16, 2:00 P.M.

Subject: Modern Aspects of the Diagnosis and Management of Essential Hypertension.

DR. WALTMAN WALTERS

ROCHESTER, MINN.

Attended Dartmouth Medical School and also Rush Medical College, University of Chicago, from which school he received his M.D. degree in 1920. He entered the Mayo Foundation as a Fellow in Surgery in 1920 and received a degree of Master of Science in Surgery from the University of Minnesota in 1923. In 1924 he was appointed head of a section in the Division of Surgery of the Mayo Clinic. He is a member of the surgical staff at St. Mary's and the Colonial Hospitals. He was made Professor of Surgery, the Mayo Foundation, University of Minnesota in 1936. In 1937 the degree of D.Sc. (honorary) was conferred on Dr. Walters by Dartmouth. His memberships include the leading surgical associations of America.

Time: February 16, 3:00 P.M.

Subject: Surgical Lesions of the Stomach and Duodenum.

News and Comments

DR. JAMES HUTTON

Dr. James H. Hutton, president of Illinois State Medical Society, will appear on the program of the Northeast Mississippi Thirteen Counties Medical Society which holds its first quarterly session at Corinth, Miss., on March 12. Dr. Hutton appeared on the program of the Mid-South Postgraduate Medical Assembly last year, and proved to be a very popular essayist. Our local society is fortunate indeed to secure a man like Dr. Hutton. He was born and raised on the farm, worked his way through school while employed as a railway mail clerk. The Chicago Medical Society elected him secretary in 1927 and again in 1928, and in 1929 elected him president. He served for a number of years on the Educational Committee of the Illinois State Society. Dr. Hutton will have a most cordial reception from the doctors of Mississippi. No one can afford to miss him. In addition to this outstanding essayist it will be mighty fine to be at Corinth on this date, as this thriving city knows how to give the finest entertainment. We are also assured by Secretary Stacy that there will be mighty good papers on this program.

IMPORTANT LETTER FROM DEAN GUYTON

Dr. W. H. Anderson,
Booneville, Mississippi

Dear Dr. Anderson:

The article that came out in the press a day or so ago from Jackson regarding the bill which had been introduced to establish a charity hospital here in connection with the medical school and also establish a four-year school has created much comment among the doctors. I thought perhaps you might like to clarify the situation, insofar as we are concerned, in the next number of THE MISSISSIPPI DOCTOR.

Neither the Chancellor of the University nor anyone connected with the medical school had any advance information whatever or even a suggestion that such a bill would be introduced until the day that it was submitted to the legislature. No one had ever consulted us in regard to this. On that day, the Chancellor got a letter from one of the sponsors of the bill stating that such a bill was being introduced. It came as a complete surprise to everyone here in the University and Oxford.

The Chancellor immediately replied, in substance, that we have always realized that it is out of the question to think of running a four-year medical school successfully in this small community, furthermore, that we think that it would be impossible to run such an institution anywhere in the state except possibly at Jackson. He also stated that running a four-year medical school would be a very expensive proposition.

I am glad that you are back at home again, and I sincerely hope that your recovery may be complete and that you can soon be back at work again.

With all good wishes, I am

Sincerely yours,

B. S. GUYTON

You will agree with the above from Dr. B. S. Guyton, dean of the two-year medical school of the University of Mississippi. The last two years in medicine is largely clinical work and it would not be practicable to try to operate a four-year school at Oxford at this time. Jackson would be limited in material even with its population. The securing of a two-year internship at this time by the establishment of a central hospital that would make it possible would be the most plausible measure. This would lay the foundation for a medical school of two more years, if at some time in the future the need should be deemed urgent. Dr. Guyton is one of the ablest deans in the South; we can well afford to take his advice, and have no fear of its wisdom.—Ed.

PAST PRESIDENTS' BANQUET

On February 14, at six-thirty P.M. at the Peabody Hotel, President Fay H. Jones of Little Rock, Ark., will give a banquet for the Past Presidents Club of the Mid-South Postgraduate Medical Assembly. This most generous gesture on the part of Dr. Jones will be greatly and deeply appreciated by the members of the club. The club was organized last year by Dr. Lawrence Long, of Jackson, Miss. Dr. A. F. Cooper, of Memphis, was elected as an honorary member because of his long and efficient service as secretary of the Assembly. In our opinion this organization can be of great constructive service to the association and we predict that it will be. Let us give our generous president a one-hundred-per-cent attendance. This is exactly what he wants. Below is a list of past presidents as far as we know:

Dr. J. B. McElroy, Memphis, Tenn.
Dr. J. W. Barksdale, Jackson, Miss.
Dr. Jere L. Crook, Jackson, Tenn.
Dr. Allen B. Cox, Helena, Ark.
Dr. F. J. Runyon, Clarksville, Tenn.
Dr. John Darrington, Yazoo City, Miss.
Dr. A. G. Hudson, Memphis, Tenn.
Dr. F. L. Husbands, Blytheville, Ark.
Dr. B. C. Arnold, Jackson, Tenn.
Dr. W. H. Anderson, Booneville, Miss.
Dr. C. M. Harwell, Osceola, Ark.
Dr. V. B. Philpot, Houston, Miss.
Dr. P. W. Lutterloh, Jonesboro, Ark.
Dr. N. S. Walker, Dyersburg, Tenn.
Dr. L. H. McDaniel, Tyronza, Ark.
Dr. P. W. Rowland, Oxford, Miss.
Dr. H. King Wade, Hot Springs, Ark.
Dr. C. R. Curtchfield, Nashville, Tenn.
Dr. Lawrence W. Long, Jackson, Miss.
Dr. H. Fay H. Jones, Little Rock, Ark.
Dr. A. F. Cooper, Memphis, Tenn., Honorary Member.

Past presidents who were unable to attend were Drs. J. W. Barksdale, Jackson, Miss.; F. L. Husbands, Blytheville, Ark., and C. M. Harwell, Osceola, Ark.

THE PLATFORM OF THE AMERICAN MEDICAL ASSOCIATION

The American Medical Association advocates:

1. The establishment of an agency of the federal government under which shall be coordinated and administered all medical and health functions of the federal government exclusive of those of the Army and Navy.

2. The allotment of such funds as the Congress may make available to any state in actual need, for the prevention of disease, the promotion of health and the care of the sick on proof of such need.

3. The principle that the care of the public health and the provision of medical services to the sick is primarily a local responsibility.

4. The development of a mechanism for meeting the needs of expansion of preventive medical services with local determination of needs and local control of administration.

5. The extension of medical care for the indigent and the medically indigent with local determination of needs and local control of administration.

6. In the extension of medical services to all the people, the utmost utilization of qualified medical and hospital facilities already established.

7. The continued development of the private practice of medicine, subject to such changes as may be necessary to maintain the quality of medical services and to increase their availability.

8. Expansion of public health and medical services consistent with the American system of democracy.

The above should be read with interest by every member of the medical profession in the United States. It is a splendid medical Magna Charta and Declaration of Independence for the American doctor. There should be no greater interest in America than the health of a its people because in their health, physical and mental, may be found the greatest strength of a nation. Surely this question is of great enough importance to warrant a Secretary of Health as a member of the Cabinet to aid in the application of medical service and in maintaining the highest medical ideals. We wish that local responsibility could meet all human needs but the care of the sick has passed beyond that now as has the responsibility for the education of every child in the United States. We have many sections which are unable locally to take care of their sick. We have had, and still have, many sections in the United States that cannot possibly furnish their part for a federal highway. If we had waited on each supervisor's district to do this we would have been sitting in the mud until Doomsday. It is high time that we realized that local responsibility cannot meet the needs in many sections in our nation, especially in the South. We would be mighty happy if it were possible, if towns, counties and states could meet their own responsibilities. The application for medical service to these unfortunate settlements should certainly be under local administration. Certainly the medical facilities already established should be utilized to meet medical needs. Private capital has been generous in furnishing money to construct hospitals when the government appeared not to be interested. Private hospitals should be utilized and should be protected as far as possible. So should church hospitals and those established by local philanthropy. Private practice of medicine should certainly be continued and encouraged. Money alone cannot buy health. Cut out the platform of the American Medical Association, frame it and hang it in your office and read it on entering each morning until you have it well in mind. The county, state and the American Medical Association must work together for medical security.

You are invited to attend the
Regional Meeting

AMERICAN ACADEMY OF PEDIATRICS
REGION II

— March 15 and 16, 1940 —
Edgewater Gulf Hotel
Edgewater Park, Mississippi
FRIDAY, MARCH 15, 1940

Registration—8-9 A.M.

Panel Discussion—9 A.M. to 12 NOON.

The Hematology and Anemias of Infancy and Childhood.—

1. Normal Hematology.—Dr. Robert A. Strong, Professor of Pediatrics, School of Medicine, Tulane Unversity of Louisiana.
2. The Hemolytic Anemias of Infancy.—Dr. Hugh Dwyer, Assistant Professor of Pediatrics, School of Medicine, University of Kansas.
3. The Constitutional Hemolytic Anemias of Childhood.—Dr. H. P. Marks, Fellow in Pediatrics, School of Medicine, Tulane University of Louisiana.
4. The Acute Hemolytic Anemias of Childhood. —Dr. Richard P. Vieth, Fellow in Pediatrics, School of Medicine, Tulane University of Louisiana.
5. Nutritional Anemias.—Dr. Harvey F. Garrison, Sr., Jackson, Mississippi.

Round Table Discussion.

Intracranial Injury to the Newborn.—

Chairman: Dr. M. Hines Roberts, Professor of Pediatrics, School of Medicine, Emory University.

Assistants: Dr. Maxwell E. Lapham, Dean and Professor of Obstetrics, School of Medicine, Tulane University of Louisiana.

Dr. Edgar Fincher, Atlanta, Georgia.

Luncheon and Recreation—12 M. to 2 P.M.

Program: (2 P.M. to 5 P.M.) Dr. L. R. DeBuys, New Orleans, La., presiding:

1. The Relation of the American Academy of Pediatrics to Other Child Health Agencies. —Dr. Edward Clay Mitchell, Professor of Pediatrics, School of Medicine, University of Tennessee.
2. Chronic Upper Respiratory Infections: Relation to Asthmatic Bronchitis.—Dr. Lee Bivings, Atlanta, Georgia.
3. Use of Liver Extract in Premature Newborns.—Dr. Arthur C. Quinn, Assistant Professor of Pediatrics, University of Tennessee.
4. Diarrheas of Early Life.—Dr. Edwin A. Socola, Acting Director and Clinical Professor of Pediatrics, School of Medicine, Louisiana State University.
5. Lipoid Pneumonia.—Dr. Clyde V. Croswell, Instructor in Pediatrics, School of Medicine, University of Tennessee.
6. Influenza Meningitis: A Review of the Recent Literature with Report of Cases.—Dr. Ruth G. Aleman, Instructor in Pediatrics, School of Medicine, Louisiana State University.
7. Cerebral Complications in Sickel Cell Anemia.—Dr. James Hughes, Assistant in Pediatrics, School of Medicine, University of Tennessee.
8. Congenital Malformations of the Intestines. —Dr. Merrill Everhart, Instructor in Pediatrics, School of Medicine, Louisiana State University.
9. A Method of Diagnosing Epilepsy.—Dr. F. C. de Lorenzo, Resident, John Gaston Hospital, Memphis, Tennessee.

Dinner—7 P.M.

Speaker.

The Opportunity for Preventive Medicine in Pediatrics.—Dr. Felix J. Underwood, Executive Officer, Mississippi State Board of Health.

Changing Concepts of the Typical Case of Tuberculosis Infection.—Dr. William Harvey Perkins, Professor of Preventive Medicine, School of Medicine, Tulane University of Louisiana, and President of the Tuberculosis and Public Health Association of Louisiana.

SATURDAY, MARCH 16, 1940

Panel Discussion—9 A.M.

Surgical Pediatrics.—

1. Hypertrophic Pyloric Stenosis.—Dr. Alton Ochsner, Professor of Surgery, School of Medicine, Tulane University of Louisiana.
2. Appendicitis in Childhood.—Dr. Urban Maes, Professor of Surgery, School of Medicine, Louisiana State University.
3. Congenital Atresia of the Esophagus.—Dr. Mims Gage, Associate Professor of Surgery, School of Medicine, Tulane University of Louisiana.
4. Preoperative and Postoperative Care of Infants.—Dr. J. D. Russ, Fellow in Pediatrics, School of Medicine, Tulane University of Louisiana.

Round Table Discussion.

Sulfanilamide and Sulfapyridine.—

Chairman: Dr. Horton Casparis, Professor of Pediatrics, School of Medicine, Vanderbilt Unviersity.

Assistants: Dr. Julian Graubarth, Assistant Professor of Pediatrics, School of Medicine, Tulane University of Louisiana; Dr. Jack E. Strange, Assistant Professor of Pediatrics, Graduate School of Medicine, Louisiana State University; Dr. Jerome Harris, School of Medicine, Duke University, Durham, North Carolina.

Luncheon and Recreation—12 M. to 2 P.M.

Business Meeting.—2 P.M.

GENERAL INFORMATION

All scientific and business meetings will be held at the Edgewater Gulf Hotel. Members are requested to register at the Registration Desk on March 15, between 8 and 9 A.M.

Edgewater Park is located between Biloxi and Gulfport, in the very center of what has been properly spoken of as the Riviera of America. It is on the main line of the Louisville and Nashville Railroad and on the famous Old Spanish Trail (U. S. Route 90), which connects Florida with California. Edgewater Park is a semi-tropical, winter pleasure community overlooking the Gulf of Mexico, with more than three hundred acres of its own premises devoted to outdoor recreation.

In spite of the high quality of service for which the Edgewater Gulf Hotel is famed, the following moderate rates have been quoted for this meeting: $6.50 and $7.00 single, $6.00 and $6.50 each person in double rooms, daily, American plan.

It is suggested that reservations be made immediately by writing directly to the hotel.

OFFICERS OF REGION II

Regional Chairman: Dr. Edward Clay Mitchell.

Associate: Dr. James W. Bruce

STATE CHAIRMEN

Alabama, Dr. Clifford L. Lamar; North Carolina, Dr. Arthur H. London, Jr.; Arkansas, Dr. Edward C. McMullen; Oklahoma, Dr. Clark H. Hall; Florida, Dr. Warren Quillian; South Carolina, Dr. William Weston, Jr.; Georgia, Dr. M. Hines Roberts; Tennessee, Dr. Horton R. Casparis; Kentucky, Dr. Philip F. Barbour; Texas, Dr. William Boyd Reading; Louisiana, Dr. Robert A. Strong; Mississippi, Dr. Harvey F. Garrison; Virginia, Dr. James B. Stone; West Virginia, Dr. J. Lewis Blanton; Dr. Edwin C. Schwartz, Maryland.

Committee on Arrangements: Dr. Robert A. Strong and Dr. Harvey F. Garrison, Sr.

COMING MEDICAL MEETINGS

The Mid-South Postgraduate Medical Assembly will hold its annual session at the Peabody Hotel in Memphis February 13, 14, 15 and 16.

The Southeastern Surgical Congress will meet in Birmingham at the Tutwiler Hotel March 11, 12 and 13.

The American Medical Association meets in New York City June 10 to 14.

The American Association for the Study of Goiter will hold its next meeting at Rochester, Minnesota, April 15, 16 and 17.

National Tuberculosis Association meets at Cleveland, June 3 to 6.

Fourth annual meeting of the New Orleans Graduate Medical Assembly will be held February 26 to 29.

Tennessee State Medical Association meets in Chattanooga April 9 to 11.

West Tennessee Medical and Surgical Association, Jackson, May, 1940.

ANNOUNCEMENT

The Memphis Society of Ophthalmology and Otolaryngology wishes to remind you of the annual clinic day to be held on Monday, February 12, 1940, the day preceding the Postgraduate Medical Assembly.

You are cordially invited to attend this clinic as our guest. We expect to have an interesting program which will begin at 8 A.M. and continue through the entire day, ending with a dinner at 7 P.M.

Make your plans to attend the Clinic and remain for the Postgraduate Medical Assembly. We would appreciate your letting us know if you can be present.

—Sam H. Sanders, M.D., Secretary.

THE SOUTHEASTERN SURGICAL CONGRESS

By DR. R. L. SANDERS

Occasionally there is born into a large family an exceptional child who, early in life, stands out as a leader in the community and not infrequently becomes a national figure. Nature seems to endow certain individuals more generously than the average. Apparently, there is an opportune time to be born. Opportunity, moreover, knocks at the door of some men at a strategic time, and response to its call constitutes the difference between the great and the near-great. George Washington was born at a propitious moment, seized his opportunity, proved his worth, and was immortalized as the Father of His Country. Ephriam McDowell was born in 1771; he performed the first ovariotomy in 1809, at a time when America was waiting for such a man of courage and ability. Womanhood and all gynecologists will pay homage to that brave pioneer throughout future centuries. Edison came into the world at the right time to bring the gift of light to humanity.

Medical organizations, like men, may have fortunate beginnings. The Southeastern Surgical Congress seems to be a child of opportunity. The territory of the Southeast was a fertile field for such an organization in 1930, when the Congress came into existence in Atlanta. It is true that several other surgical societies were represented in the South, but none of them could offer this group of men quite the opportunity they sought. The Congress was conceived and developed by a few Southern surgeons who were eager to spread the gospel of better surgery in the South. In an editorial published in THE SOUTHERN SURGEON several months ago, the author stated that, even though still in its swaddling clothes, the Congress had made excellent progress, it had kept the faith, and the rewards were to be seen dimly on the horizon; that unborn generations of Southern surgeons might rise up to bless the hour of its birth and to give thanks to the spirits of such an organization. The founders dedicated the Congress to the performance of a serious and wholesome task. It is fitting that its purposes be restated at this time:

1. To stimulate progress in medical and surgical science in the southeastern part of the United States and neighboring territory.
2. To co-operate with accredited medical schools and hospitals for higher standards of medical education.
3. To elevate the standards of surgery.
4. To establish a standard of competency and character for practitioners of surgery.
5. To provide for the selection of only physicians adequately trained and properly qualified to practice surgery.
6. To hold professional and social meetings, and to publish transactions.

Only seven states were included in the original southeastern territory. Today, a happy family of 571 surgeons from eleven states are banded together with a mind to work and a determination to fulfill the purposes of the Congress. Its members should be proud of their accomplishments as the threshold of another decade is crossed.

Annual meetings have been held and the attendance has been increasingly good. The majority of the papers have been published in the official organ, THE SOUTHERN SURGEON. Beginning with this new year, the journal will be published monthly and its circulation will be increased.

One feature of the Congress which has proved a valuable part of its activity is the state clinical conferences. These conferences are held in small towns and rural hospitals for the purpose of taking clinical surgery to the doctors who cannot, or through lack of interest do not go to teaching centers for postgraduate work. All the states should organize state chapters and inaugurate these clinical conferences for the benefit of the local men.

The State Conference program of the Congress is in keeping with excellent principles advocated in the editorial columns of THE MISSISSIPPI DOCTOR. The able editor of this journal has been at least ten years ahead of his time in his campaign for the improvement of rural hospitals and the elevation of surgical standards, and it is gratifying to know that his efforts are now bearing fruit.

An elaborate program has been prepared for the Birmingham meeting of the Congress on March 11, 12 and 13, 1940. The subjects discussed will be sufficiently varied to attract all groups of surgeons and many physicians. Excellent scientific, commercial and motion picture exhibits will provide an additional educational attraction. All who can do so are urged to make early arrangements to attend the entire session.

BIRMINGHAM ASSEMBLY OF THE SOUTHEASTERN SURGICAL CONGRESS

—1940 Program—

GYNECOLOGY

Dr. Quitman U. Newell, St. Louis: "Common Lesions of the Vulva, and Their Treatment."

Dr. C. J. Andrews, Norfolk: "Pelvic Supports—Their Injury and Repair."

Dr. Robert A. Ross, Durham: "Sex Endocrinology and Pelvic Surgery."

LARYNGOLOGY

Dr. Edward A. Looper, Baltimore: "The Diagnosing and Surgical Treatment of Carcinoma of the Larynx."

OTOLOGY

Dr. S. S. Hall, Clarksville, West Va.: "Chronic Exudative Sclerosing Mastoiditis."

OPHTHALMOLOGY

Dr. R. O. Rychener, Memphis: "A Simple Technique for Glass Ball Implantation Following Enucleation of the Eye Ball."

MEDICINE

Dr. James K. McGregor, Hamilton, Canada: "Dysfunction of the Thyroid Gland as a Cause for Premature Old Age."

Dr. T. Z. Cason, Jacksonville, Fla.:

Dr. Francis M. Massie, Lexington, Ky.: "Amebic Colitis as a Cause of Abdominal Pain."

Dr. K. K. Sherwood, Seattle: "Classification and Treatment of Chronic Arthritis."

PROCTOLOGY

Dr. Martin S. Kleckner, Allentown, Pa.:

Dr. Louis A. Buie, Rochester: "Management of Anal Fistulas in Office and Hospital."

ANAESTHESIA

Dr. C. N. Carraway, Birmingham: "Pentothal Sodium Oxygen Anaesthesia."

SURGERY

Dr. Herbert Acuff, Knoxville: "The Surgical Treatment of Pulmonary Tuberculosis With a Survey of End Results."

Dr. Russell B. Bailey, Wheeling, West Va.: "Surgical Treatment of Obstruction at the Cardiac Orifice."

Dr. Randolph L. Clark, Jackson, Miss.: "Recent Advances in the Management of Intestinal Obstruction."

Dr. George Curtis, Columbus, Ohio: "The Rationale of Splenectomy in the Treatment of Certain Anemias."

Dr. T. C. Davison, Atlanta: "Breast Tumors." Moving pictures in color.

Dr. Michael de Bakey, New Orleans: "Significant Factors in the Prognosis and Mortality of Perforated Ulcer."

Dr. James W. Gibbon, Charlotte: "Gastrojejunal Ulcer with Case Reports."

Dr. Stuart W. Harrington, Rochester: "Surgical Treatment for Calcified Constricting Pericardium."

Dr. Frank S. Johns, Richmond: "The Progress in the Development of Extrapleural Thoroplasty in the Treatment of Pulmonary Tuberculosis."

Dr. J. B. Lukins, Louisville: "Postoperative Pulmonary Complications."

Dr. J. M. Mason, Birmingham: "C. Jeff Miller Memorial Lectureship."

Dr. Roy D. McClure, Detroit: "The Modern Treatment of Burns."

Dr. George Pack, New York City: "The Diagnosis and Treatment of Malignant Tumors of the Skin."

Dr. Edwin G. Ramsdell, New York City: "The Prevention of Wound Disruption."

Dr. J. D. Rives, New Orleans: "The Splenic Anemias: Present Conception of the Etiology, Diagnosis and Treatment, With Some Suggestions on Surgical Technique."

Dr. R. L. Sanders, Memphis: Presidential Address.

GENITO-URINARY SURGERY

Dr. Edgar G. Ballenger, Atlanta: "The Importance of Early Diagnosis of Genito-urinary Diseases."

Dr. Robert Herbst, Chicago: Subject to be announced later.

Dr. Nelse F. Ockerblad, Kansas City: Subject to be announced later.

Dr. Lawrence P. Thackston, Orangeburg: "Suprapubic Prostectomy With the Use of an Original Combination Hemostatic Drainage Bag."

Dr. Roy B. Henline, New York City: "Prostatic Disease With a Special Reference to the Various Causes and Types as Well as Their Treatment."

ORTHOPEDIC SURGERY

Dr. Austin T. Moore, Columbia: "The Treatment of Fractures of the Neck of the Femur by Internal Fixation With Four Adjustable Nails—An End Result Study."

Dr. Leslie V. Rush, Meridian: "Some Commonly Seen Fracture Cases in Which Bad Results Frequently Occur."

PEDIATRIC SURGERY

Dr. Stanley J. Seegar, Milwaukee: "Pediatric Surgical Problems."

NEUROSURGERY

Dr. Cobb Pilcher, Nashville: "Surgical Aspects of Epilepsy."

Dr. Exum Walker, Atlanta: Subject to be announced later.

DR. JOSEPH E. GREEN

Dr. Joseph E. Green, 56, of Laurel, Miss., who passed to his reward on February 6, 1940. In his death organized medicine lost a most valuable friend. He closed his term as president of the Mississippi State Medical Association at its last annual meeting at Gulfport. Very active during his tenure of office, he worked untiringly for a state-wide pure food and drug act, for a more effective and accurate recording of vital statistics, and for the enactment of a law prohibiting the indiscrimnate sale of barbiturate acid compounds. He sowed seed that will bring forth fruit. In addition to serving as president of the Mississippi State Medical Association he had served as president of the South Mississippi Medical Society, and on the Council of the Mississippi State Medical Association from 1931 to 1937. He was a member of the Baptist Church, served as superintendent of the local Sunday school and as a deacon. He was a member of the Rotary Club and the Chamber of Commerce, having served both as president. He was past grand master of Mississippi Masons. For many years he took a very active part in the Southern Pediatric Seminar of North Carolina. Giving special attention in his practice to pediatrics and obstetrics he rendered a very fine service in this field. Dr. Joe Green was really a great citizen. Behind his levity and ready wit one always found wisdom and a deep sincerity of purpose. He was ever ready to express his opinion on any subject, but allowed all others the same privilege. No man ever had a more loyal friend than Joe Green. He will be very greatly missed by the medical fraternity of this state. He took the lead in giving THE MISSISSIPPI DOCTOR an opportunity in its own state. He was ever its loyal friend. During this time we learned of his loyalty, his kindness of heart, and sincerity of purpose. We feel deeply the loss of a friend tried and true.

DR. WILLIAM D. HAGGARD

The passing of Dr. William D. Haggard, of Nashville, Tennessee, took from the field of action one of the most outstanding characters in the medical profession of this nation. It is said that he served as president of every medical association of which he ever became a member—from his local medical society to the American Medical Association. As Alexander the Great, who conquered all the known world, he held all the medical honors to be bestowed, and would have held more had there been others. He really had the hand and heart of a surgeon. He was not only a master surgeon but he was a master in the artful handling of the English language. His voice was rhythm, his language a symphony, and his thoughts, those of a builder. He always carried his audiences with the strength of his ideas as much as by his eloquence. Dr. Haggard traveled rapidly in his medical career. With all his accomplishments in organized medicine, and especially in the field of surgery, he died at the age of 67. He has left an ineffaceable imprint on the medical thought of America. His appeal to the laity was scarcely less recognized than to his profession, and such philosophical advice as "Have a health examination on your birthday" will keep the Haggard influence moving in the trend of health consciousness and prevention for which he labored.

ANNOUNCEMENT

Dr. W. H. Anderson, of Booneville, Miss., announces the association with him of Dr. Allen H. Tigert, of Soda Springs, Idaho.

DR. W. A. JOHNS ILL

We deeply regret the serious illness of Dr. W. A. Johns, of Corinth, Miss. Dr. Johns is certainly one of the elect of the medical profession of northeast Mississippi, as well as in his specialty, the eye, ear, nose and throat. He is one of our finest citizens and is the embodment of medical integrity. We extend our heartfelt sympathy to him in the loss of his mother, who died on the tenth of January at the age of 96.

DR F. S. DIXON NEW SUPERINTENDENT

Dr. F. S. Dixon, of Natchez, has been appointed by Governor Johnson as superintendent of the state hospital of that city. He succeeds Dr. L. M. McGee who resigned.

BOOK REVIEWS

Practical Obstetrics, by P. Brooke Bland, M.D., Emeritus Professor of Obstetrics, Jefferson Medical College; Consulting Obstetrician, Jefferson Medical College Hospital, Philadelphia, Pa., and Thaddeus L. Montgomery, M.D., Clinical Professor of Obstetrics, Jefferson Medical College, Philadelphia, Pa., pp. 887, illustrated with 502 engravings including 27 colored plates. Published by F. A. Davis Company, Philadelphia, Pa.

This work, now in its third edition, has as its chief aim that of providing the practitioner and student with a concise, workable text of obstetrics. In accomplishing this, the book, while thoroughly up-to-date, has kept theoretical and abstract discussions at a minimum in an effort to present the material in such a manner that concise, practical information or any obstetrical problem is quickly obtainable.

For those who desire references for further study on special obstetric problems a bibliography of referred readings is included at the end of the text.

Psychobiology and Psychiatry, by Wendell Muncie, M.D., Associate Professor of Psychiatry, Johns Hopkins University. Foreword by Adolf Meyer, Professor of Psychiatry, Johns Hopkins University. Cloth. Price, $8.00. Pp. 739, 69 illustrations. Published by C. V. Mosby Co., St. Louis, Mo., 1939.

It takes years for a physician to learn the true application of such terms as "bedside manner," "history-taking," "mental hygiene." In the author's opinion one must become familiar with man in his setting before he can understand the part of him that he desires treated. To work, to inquire and to share are the prerequisites for present-day medical responsibility. The author starts with actual personality study, with the student himself preferably the object of analysis, and proceeds with actual diagnostic and treatment work based on the experience obtained at the Henry Phipps Psychiatric Clinic at the Johns Hopkins Hospital. He passes on his information in such an engrossing manner, one is impelled to pursue the study. The second part of the book deals with problems of abnormal behavior—pathology and psychiatry. Part III takes up treatment, and the last part gives a historical survey of principal reaction states.

Any doctor who recognizes the undeniable place held by psychiatry in the practice of medicine, and feels obligated to know man—both himself and others—if he is to perform his tasks with understanding, will welcome this book.

Mississippi State Medical Association

Organized in 1[illegible]7 **Next Meeting: May, 1940, Jackson.**

OFFICERS

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COMMITTEES

Program:
Surgery—Edwin Benoist, Natchez
Hygiene and Public Health—E. W. Noblin, Sr., Jackson
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E. E. N. and T.—E. Staton, Columbus

Anti-Barbiturate:
J. M. Acker, Aberdeen
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Public Policy and Legislation:
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Charity Hospitals:
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W. W. Crawford, Hattiesburg
John Darrington, Yazoo City
B. B. Martin, Vicksburg
H. R. Shands, Jackson

COMPONENT SOCIETIES

County Society	President	Secretary-Editor	Time of Meeting
Adams	James C. Rice, Natchez	Fred Geisenberger, Natchez	Third Tuesday 7:30 p. m.
Alcorn	G. W. Googe, Rienzi	Bernard Patrick, Corinth	Third Thursday 7 p. m.
Amite	W. S. Stewart, Osyka	H. A. Butler, Liberty	Second Thursday 7:30 p. m.
Central Medical	W. H. Watson, Jackson	H. C. Ricks, Jackson	First Tuesday 7:30 p. m. Omit Jul and August.
Claiborne		G. W. Acker, Port Gibson	
Clarksdale and Six	W. H. Williams, Tunica	L. B. Austin, Rosedale	1st Wed. March and Sec. Wed. Nov
Clarke-Wayne	W. P. Gray, Waynesboro	Albert Hand, Shubuta	
Coahoma	L. H. Brevard, Clarksdale	Julius L. Levy, Clarksdale	
Coast Counties	B. B. O'Mara, Biloxi	D. L. Hollis, Biloxi	
Delta Medical	G. Y. Gillespie, Greenwood	F. M. Acree, Greenville	Sec. Wed. April and Oct., 2 p.m.
DeSoto	Henry M. Wadsworth, Hernando	L. L. Minor, Memphis, Rt. 4	
East Mississippi	C. H. Harrison, Philadelphia	Guy T. Vise, Meridian	
Franklin	C. A. Everett, Bude	L. Costley, Meadville	
Issa-Shar-Warren	Walter E. Johnston, Vicksburg	Alston Callahan, Vicksburg	
Jefferson	C. R. Senter, Byhalia	Herbert Phillips, Holly Springs	Second Thursday.
Marshall		W. T. Harper, Fayette	
Newton	W. L. Henton, Decatur	Dudley Stennis, Newton	
North Mississippi	C. M. Speck, New Albany	A. H. Little, Oxford	Third Wed., Jan., April, July, Oct
Northeast Miss.	J. W. Lipscomb, Columbus	A. J. Stacy, Tupelo	Sec. Tue., Mch., June, Sep., Dec.
Pike	E. M. Givens, McComb	T. Paul Haney, Jr., McComb	First Thursday
Pontotoc	J. H. Windham, Ecru	E. B. Burns, Pontotoc	
South Mississippi		Van C. Temple, Hattiesburg	
Sunflower		H. B. Cottrell, Indianola	
Tallahatchie	G. Lacy Biles, Sumner	J. E. Powell, Charleston	
Tate	W. D. Smith, Senatobia	J. S. Eason, Coldwater	Second Wednesday
Cop.-Law.-Lin.-Wal.	J. J. Pittman, Tylertown	R. B. Zeller, Hazlehurst	Sec. Tue., March, April, June, Dec
Webster	E. T. Arnold, Bellefontaine	H. K. Curry, Eupora	
Wilkinson	C. E. Catchings, Woodville	E. M. Butler, Centerville	
Winona District		S. B. Caruthers, Grenada	

Interpreting Medical Literature

STAFF OF REVIEW

Dermatology—James G. Thompson, Jackson.

Eye, Ear, Nose and Throat—Alston Callahan, Vicksburg.

Obstetrics and Gynecology—J. W. Lucas, Greenwood.

Orthopedics—Thomas H. Blake, Jackson.

Pathology and Clinical Pathology—John C. Henthorne, Jackson.

Pediatrics—Harvey F. Garrison, Jackson.

Public Health—Felix J. Underwood, Jackson.

Radiology and Roentgenology—Karl O. Stingily, Meridian.

Surgery—W. H. Parsons, Vicksburg.

Urology—Temple Ainsworth, Jackson.

Discussion and comments are invited.

DERMATOLOGY

GENERALIZED HERPES ZOSTER, Archives of Dermatology and Syphilology. V. 40, No. 6, pp. 974-986.—

There is an old adage to the effect that if shingles goes completely around the body it will kill the patient. This, as most of us know, and have known for quite some time, is not true. Even with our present knowledge of herpes zoster, we still use the idea of a unilateral distribution as one of our criteria in differential diagnosis.

The filterable viruses are being studied more and are being brought to the attention of the public and the medical profession more than ever before. George W. Gray has quite a lengthy article in Harpers Magazine for January, 1940, in which he discusses the virus diseases and their relation to influenza.

Herpes zoster generalisata has been thought by some dermatologists to be fairly common and by others to be relatively rare. Doctor L. P. Barker presents nine cases of generalized herpes zoster with case histories in an article in the December, 1939, issue of Archives of Dermatology and Syphilology. He also brings up the point of whether herpes zoster in an adult can be transmitted to a child and cause varicella, and vice versa. The point as to whether the virus that causes one disease is the same as the virus that causes the other is discussed and it is brought out that perhaps the cross agglutination of these viruses is a group agglutination and is not specific for any one of the diseases.

The relationship of herpes zoster and varicella has caused considerable comment for quite some time and certain authors have thought that both the diseases had a common cause. Numerous cases have been reported to support this hypothesis, and McEwen has divided them into four groups:

1. Cases in which chickenpox developed after exposure to herpes zoster.
2. Cases of local herpes zoster followed by general eruption.
3. Cases of generalized herpes zoster followed by varicella in contacts.
4. Cases in which herpes zoster developed after exposure to varicella.

With the four postulates aforementioned it is easily seen that a great deal of discussion could be done over the probabilities that may arise.

Doctor Barker concluded his article by saying: "Local herpes zoster may be followed by a general infection which is due to the same causative agent. The causative agent may belong to the group of filtrate viruses and may be related to the agent of chickenpox although it is probably a separate entity."

—J. G. T.

PATHOLOGY

RENAL FUNCTION. Barker, M. H. Am. J. Clin. Path. 70:21-29, Jan., 1940.—

It is not surprising that repeated objections to the present renal function tests are voiced on the part of physicians when one considers the tremendous reserve of the kidneys as evidenced by the fact that only ten per cent of the glomeruli may be active at one time. Only a few of the many tests of renal function are used routinely by the author.

Probably the best simple test of renal function concerns the ability of the kidneys to concentrate urine. When no liquid is given with the evening meal and the patient voids before retiring, the specific gravity of the morning specimen should be above 1.025. Exceptions are cases where there exists polyuria nocturia, diabetes insipidus, and congestive heart failure conversely, the normal kidney should be able to dilute the specific gravity of urine to 1.003 and should be able to pass 400 cc. of urine in the first hour after drinking 1500 cc. The dlution test is probably less useful than the concentration test.

The phenolsulphonephthalein test should not be limited to renal function alone, but it should be interpreted in a much broader diagnostic sense. For instance, liver disease causes an increase in the excretion of dye.

The urea clearance test is a useful routine test of renal function. This test measures the amount of blood cleared of urea per minute. Caffeine administered before the test, hyperthyroidism, certain cases of hypertension, and congestive heart failure alter the results of the test.

Other factors than those previously mentioned influence renal function and have to be considered in the interpretation of the test. They are alkalosis or acidosis, and marked variation of blood chlorides or other specific ions such as phosphates and sulphates.

It is interesting that in severe cases of chronic glomerular nephritis, as introgen retention increases, the blood cholesterol falls. For this reason when high nitrogen retention and high blood cholesterol appear simultaneously, the author prognosticates a possibility of clinical improvement.

STUDIES ON EXPERIMENTAL HYPERTENSION. Goldblatt, H. Am. J. Clin. Path. 10:40-72 (Jan.) 1940.—

Since 1932 when the first paper was published by the author on this subject, considerable progress has been made, and the current article gives an extensive bibliography, the method of producing hypertension experimentally, and brings up to date the author's research.

The author found that by constricting the renal arteries of dogs, he could produce hypertension.

Adequate constriction of the main renal artery of one kidney results in elevation of the blood pressure which persists for a period varying from weeks to months and usually returns to normal within four to six weeks. If the constriction is excessive there may be little or no rise of blood pressure. Release of the constriction during the period of elevated pressure results in a prompt return to normal. Clinical experience has proved that unilateral renal disease is capable of producing sustained hypertension in humans, and in such cases, the hypertension can be relieved by surgical removal of the diseased kidney.

If both renal arteries of the dog are constricted, sustained hypertension without alteration of renal function results. When one or both clamps are removed, the blood pressure returns to normal.

The uremic, convulsive, malignant phase of hypertension can be produced experimentally by excessive constriction of both main renal arteries.

The author believes that he has established beyond reasonable doubt that the hypertention which results following renal ischemia is due to a humoral substance elaborated by the kidney. Experiment with endocrine glands has failed to show any relationship to the type of experimental hypertension described.

—J. C. H.

PEDIATRICS

SOME PROBLEMS OF DIPHTHERIA IMMUNIZATION, Hillman, Maurice M. and Linde, Joseph I., Journal of Pediatrics, 15:513 (October) 1939.—

In this study the writers assume "that toxoid is the most widely accepted agent in diphtheria immunization and that the Schick test is the only practical means by which we can determine whether an individual is immune as a result of injection of toxoid or has natural immunity.

"Since the introduction of toxoid, however, problems have developed in connection with diphtheria immunization which are of practical interest both from the administrative point of view of the physician in private practice. Some of these factors to consider are as follows:

"1. Age factor in relation to immunity.

"2. Time relationship between immunization and the Schick test reaction.

"3. Problem concerning the reversal from Schick-negative and Schick-positive.

"4. Effect of injection of two doses of toxoid in comparison with three."

The writers have analyzed a large series of cases in an endeavor to throw some light upon these questions. Study of their series yielded the following observations:

"1. This study indicates that there is a higher percentage of negative reactions in a group of children immunized between 6 and 9 months of age than when immunized at 1 year of age. The high percentage of negative reactions is probably not due to the immunity conferred as the result of toxoid administration, but is influenced by the passive immunity inherited from the mother. This confirms the results of studies made by other investigators. While toxoid immunization against diphtheria will add protection to a larger percentage of children if performed at a later age after the passive immunity derived from the mother is gone, this is no indication against immunization before 9 months of age, when a public health program is considered. But children must be Schick-tested at a later period of time if we are to be certain of results in individual cases. Immunization at a later age is more applicable where the private practitioner is concerned because the child is under closer observation and because there are other preventive measures which the private practitioner institutes at six months of age, such as whooping cough innoculation and vaccination against smallpox."

"2. As regards the relationship between immunization and Schick test reaction, it was found that the percentage of negative reactions is considerably smaller when infants are Schick-tested six months after immunization. "In other words, there is a decline in the ability to give a negative reaction as the time interval between the last dose of toxoid and the Schick test is prolonged. It seems, therefore, that it would be a safe and wise procedure to Schick test children one year after immunization instead of six months. In this manner a better gauge may be obtained as to the degree of immunity conferred.

"3. Concerning the problem of the reversal from Schick-negative to the Schick-positive, this study has shown that there is a 25 per cent reversal when children are immunized with two doses of toxoid. It also indicated that many became positive two or three years after immunization. This suggests the desirability of Schick-testing children again before they enter school.

"4. Regarding the effectiveness of two doses of toxoid in comparison with three doses of toxoid, this study has shown that the percentage of negative reactions is much smaller when two doses are administered than when three doses are given. Thus—when two doses are administered the percentage of Schick negatives is 81.7 per cent while, when three doses are administered, the percentage is about 96 per cent.." This study also showed that "one dose of alum precipitated toxoid is more effective than two doses of the liquid toxoid. It would seem, therefore, that three doses of unmodified toxoid given at four-week intervals is the most effective method of diphtheria immunization."

Some writers declare that it is unnecessary to make Schick tests before and after immunization. While it may not be good economy in large cities, the writers found that the Schick test after immunization is a necessary public health procedure.

* * *

COMMENT

For many years, there has been quite a difference in opinion as to the kind of diphtheria immunization to be used, the number of doses to be given and the interval between doses, as well as the time of making the Schick test after the immunization is given.

The above article is very timely. The points brought out are very much in accord with our experience. It is possible that many of us would get more negative Schicks is we waited longer after the immunization to make and read them.

—H. F. G.

PUBLIC HEALTH

INSECTS AS VECTORS OF VIRUS DISEASES, James S. Simmons, pp. 188-175, Symposium on Virus and Rickettsial Diseases with esp. consideration of their public health significance. Harvard School of Public Health, June, 1939.—

Dr. Simmons fulfills a long-felt need for a comprehensive review of the growth of medical entomology from a collection of vague folk beliefs to the vigorously growing science it is today.

As a preliminary study, Dr. Simmons reviews the chief insect-borne diseases, their vectors, and pertinent details of the life histories of the vectors. Turning to the virus diseases, the author separates them into two classes: these which have been proved to be insect-borne and those which have not been proved but are suspected to have insect vectors. Into the first group fall the diseases yellow fever, dengue fever, pappataci fever, fowlpox, 3 diseases of sheep, equine encephalomyelitis, epidemic encephalitis (Type B), and lymphocytic choriomeningitis. Attention is called to some of the more interesting strides in the study of yellow fever such as the preservation of the virus by drying in vacuo while frozen, perfection of a "mouse protection test," the discovery that many species of monkeys and other lower animals are susceptible to the disease and make possible the existence of a huge natural reservoir of yellow fever of which mankind must be watchful, and the finding of many new foci of the disease in South America and Africa.

Knowledge of the virus of dengue is rather limited as no satisfactory laboratory animal has yet been found on which extensive experimental study can be made. The disease is transmitted by the chief yellow fever vector, Aedes aegypti, and several other species of mosquitoes. Over a million cases of dengue were reported in an epidemic in 1922 in the southern United States.

The vector of pappataci fever is the sandfly (Phlebotomus papatasii), which was incriminated in 1908-1909. An extrinsic incubation period of 4 to 8 days is required for the infected insect to become infective. Monkeys are believed to be susceptible to the disease and it has been suggested that the horse or some other lower animal serves as a natural reservoir for the virus.

Rift Valley fever resembles both dengue and yellow fever but is immunologically distinct. Injections of suspensions of 3 species of mosquitoes (Mansonia species) up to 9 days after infective meals, have accomplished the transfer of infection. In addition, suspensions of infected nymphal ticks (Rhipicephalus appendiculatus) have been found infective by inoculation, but not after moulting of the ticks to adults.

It has been observed that a variety of specific neurotropic viruses produce acute and possibly chronic infections of the central nervous system in man and the lower animals. Characteristic of these infections which are insect-borne, are louping ill of sheep of which two species of ticks are known vectors; two types of equine encephalomyelitis, transmitted by Aedes aegypti, seven other species of Aedes and the wood tick (Dermacentor andersoni); and certain types of epidemic encephalitis believed to be spread by various species of mosquitoes. In the transmission of louping ill of sheep, infection is not passed on by the female tick to the eggs or nymphs.

In 1932 several cases of encephalitis were reported among human contacts of infected horses, but no virus was recovered from these patients. In 1938, about 30 human cases were recognized during an eastern type epizootic from which Fothergill and his associates isolated the virus. Western type virus was identified by T. Broeck of the Rockefeller Institute in material from human cases which was recognized during an outbreak in Minnesota, 1938. As an outgrowth of these studies, additional natural hosts were discovered and in the laboratory, experimental infections of blackbirds and other fowls have been obtained, suggesting that wild migratory birds might be a factor in the propagation of the disease.

There have been summer epidemics of encephalitis in Japan since 1871. This summer type of encephalitis was designated type B to distinguish it from the all season variety which is called type A. In 1917 and 1918 a summer type of encephalitis, producing a case fatality of 70 per cent, appeared in Australia. In St. Louis, in the summer of 1933, there appeared an epidemic of encephalitis similar to type B of Japan. The epidemiology of all these types of encephalitis suggested an insect vector, as the peak in cases was reached in late summer and few or no cases of the various types were reported in the colder months. Therefore in August, 1933, a series of experiments were undertaken in St. Louis by the United States Public Health Service to find a possible insect vector of the virus. Only negative findings resulted from this work, yet the possibility of insect transmission was not disproved. The investigators did state, however, that unrecognized human carriers were the probable method of infection. Dr. Simmons points out that there is insufficient evidence to dismiss the theory of insect transmission of encephalitis and gives a number of interesting reasons for his plea for further investigation of the problem.

In poliomyelitis, the theory of contact-spread is now favored; however Dr. Simmons calls attention to facts that do not exclude the possibility of insect transmission. The difficulty of early diagnosis presents quite an obstacle, but the author believes there is a possibility that the virus is abundant enough in the blood during the incubation period of poliomyelitis to infect a biting insect; however, when the case is recognized the blood is no longer infective. Even though the virus of poliomyelitis is infective by the intranasal route, this might not be the mode of infection in nature, he asserts. The virus of equine encephalitis is also infective by this route, but most observers agree that in nature it is spread not by contact but by insects. The facts that the incidence of clinically recognized infections is low among contacts, that most of the epidemics occur during the summer months, and that the prevalence of the disease probably is higher in rural than in urban populations support the theory of insect transmission of poliomyelitis. Certainly it warrants a thorough reinvestigation to determine whether or not insects may be concerned in the natural spread of poliomyelitis.

Dr. Simmons concludes his article with an excellent bibliography and briefly reviews the many diseases spread by insects and their cost in disability and death. He states that extensive research in the field of medical entomology would not only afford an opportunity for profitable scientific service but would fulfill an obligation to our national defense.

—T. T. B., Jr.

SURGERY

STRANGULATED HERNIA IN THE AGED, O. T. Clagett. Proceedings of the Staff of the Mayo Clinic, Vol. 14, No. 50, December 13, 1939.—

The author remarks that as Brooks pointed out, one's life expectancy in 1850 was thirty-nine years, in 1931 it was fifty-nine years. Obviously an increasing number of individuals live to have surgical lesions and not a few of these, through refusal to permit surgery or because it is denied them, develop acute emergencies demanding immediate intervention. The author believes the former general tendency to accept old age as an excuse for withholding needed operative efforts to relieve dangerous and disabling diseases should be abandoned and in support of this conclusion he presents a series of eight patients more than 70 years of age operated upon for strangulated hernia with only one death. He cites the further extensive and similar experiences of Brooks, Bailey, Grace, et al, Walters and Mayo. The very fact that individuals achieve seventy years longevity is proof of their hardihood. It is significant that uncomplicated hernia operations carry a mortality rate of about 1-3 of 1 per cent. The risk in the presence of acute strangulation is 30 times as great—argument enough to justify the invariable advice, provided the patient is in reasonably good condition, to repair all herniae no matter how insignificant, before an emergency condition develops.

DIAGNOSTIC PARACENTESIS IN SUSPECTED INTRAABOMINAL HEMORRHAGE, Coleman C. Johnston, Lexington, Ky. Annals Surgery, Vol. III, No. I, January, 1940.—

The author remarks upon the difficulty of establishing, at a time when surgical aid is most apt to be possible, the diagnosis of traumatic rupture of an abdominal viscus. He suggests as a "quick, simple, safe and satisfactory means of determining the presence of intraabdominal hemorrhage" the use of abdominal paracentesis. Under local anesthesia a small incision is made at a joint just lateral to the rectus muscle and one inch above the umbilicus. A trocar is then inserted and in the two cases presented by the author, withdrawal of the plunger point was followed by welling up of blood. In these instances immediate operation was done and in one a rent in the spleen and in the other a rent in the liver was demonstrated and repaired.

The author feels the procedure is accompanied by slight if any risk. If that proves true it may be an additional help in this frequently obscure condition where one balances between the dilemmas of unnecessary exploration with a high mortality rate or delay which may prove fatal.

SURGICAL REPORT FOR 1938 ON LESIONS OF THE STOMACH AND DUODENUM, Waltman Walters, H. K. Gray and J. T. Priestley. Proceedings of the Staff meetings of the Mayo Clinic, Vol. 14, No. 51, Dec. 20, 1939.—

This article from one of the busiest surgical clinics in this or any country should prove exceedingly interesting and profitable reading to all internists as well as those surgically inclined.

It is significant that only 15.7 per cent of all patients having duodenal ulcer were operated upon. Duodenal ulcer, in the absence of complications, is no longer treated surgically. Ten years previously in this clinic 38 per cent of patients having duodenal ulcer were operated upon. Duodenal ulcers are now seen by a surgeon because of complications. In years past, the procedure usually performed for duodenal ulcer was gastroenterostomy. Now 30 per cent of these patients are subjected to partial gastrectomy with (in this particular clinic) no increase in the mortality rate but with apparently definitely better end results. Gastroenterostomy, nonetheless, maintains a very prominent position in the treatment of duodenal ulcer.

Gastric ulcer was treated perferably by partial gastrectomy and in a minority of instances by other procedures. The mortaility rate was almost three times as great as when resection was done for duodenal ulcer.

Of 409 patients having carcinoma of the stomach 38.6 per cent were found on clinical examination inoperable and of those remaining who were submitted to exploration 50 per cent were found resectable. In other words 30.8 per cent of all patients having carcinoma of the stomach were suitable for radical resection. There was a gross hospital mortality rate of 13.4 per cent.

Raising of operability and lowering of mortality rates, with improved end results in dealing with this malady will come only if, and when, physicians who first encounter these patients suspect the true nature of the difficulty and insist that adequate and competent examinations be made.—Ed.

—W. H. P.

UROLOGY AND GYNECOLOGY

In California and Western Medical Journal, 50:351-355, May, 1939, H. C. Bumpus, Jr., discusses Urinary Tract Infections From A General Practice Standpoint. The most common by far are of ascending type, one of the more frequent being associated with the passage of catheters. Passage of a urethral catheter postoperatively, followed in 12 or 24 hours by a chill and pyuria, is frequently interpreted as indicative of faulty technic in its sterilization or undue trauma by the nurse or house officer officiating. It is now generally accepted by urologists, however, that the primary cause of such ascending infection has occurred prior to catheterization. The trauma that has resulted from allowing the bladder to become overdistended being the true etiologic factor, whoever is responsible for the delay in ordering catheterization should accept the blame for subsequent ascending infection—with elevated temperature, chills and fever—rather than the one who actually performed the catheterization. There seems little question that the custom of waiting for surgical patients to void after their bladders have filled is responsible for a greater number of acute renal infections than the poor technic of nurse or house officer who did the catheterization. Nothing so sets the stage for immediate urinary infection as overdistention of any part of the urinary tract. Stretching of the mucosa causes a serious hemorrhagic exudate which, in the presence of urine, seems to be the finest of mediums. It appears well to emphasize that in treatment of urinary tract infections we now have available four efficient drugs, namely, methenamine, mandelic acid, sulfanilamide and neoarsphenamine. If cases of such infection do not respond to proper therapeutic administration, the probabilities are great that there are associated pathologic conditions in the form of a stone, obstruction, stasis or neoplastic disease, which demand thorough investigation by the urologic colleague.

Journal of Urology, 41:366-390, March, 1939. At Atlantic City Hospital, Charles H. DeT. Shivers and Kenneth P. Henderson made a clinical study of 49 Cases of Urinary Calculi requiring surgery. Since the work published by Barney and Mintz on relationship of hyperparathyroidism to urinary calculi the authors examined the blood calcium and phosphorus in 12 of their group. In no instance did they find an increase in blood calcium or a decrease in phosphorus. Joly mentions geographic distribution as a possible etiologic factor but is unable to explain the prevalence of stone in one part of a country and the absence in another. The question of influence of lime salts in drinking water is by no means settled, as stone is common in Holland where drinking water is reasonably free from lime salts and rare in Switzerland where the rocks are calcareous and water very hard. The drinking water in Atlantic City is a mixture of cedar swamp and artesian. The cedar swamp water contains only 0.6 part per million of calcium, and the combination pond and artesian contains 2 parts per million. The average hotel well contains 9 parts per million of the calcium.

Infection was present in all but two cases. The predominating organism was colon bacillus. In renal calculus a contributing factor to back pressure was found in only five cases. No narrowing of ureter below a stone in any case. In only two cases of focal infection did the organism correspond with cultures from urine. Follow-up treatment carried out in every case. Patients were instructed to

report back no recurrence of renal or ureteral stones; vesical stones have re-formed in two where the obstruction at the bladder orifice was not completely removed. Nephrostomy drainage was a definite aid in clearing up infections. All vesical calculi were found in ceptions behind mechanical obstruction. Stones composed largely of carbonates were conspicuous by their absence. The most common urinary salts found were calcium phosphate and oxalate.
the presence of infection and with two ex-

State Board of Health

Felix J. Underwood, M.D.

PERTINENT POINTS IN THE DIAGNOSIS OF SYPHILIS

By Paul T. Erickson, M.D.
Consultant, Venereal Disease Control

The syphilis control program conducted by the State Board of Health in cooperation with the various county health departments and local physicians has brought us face to face with the many perplexing problems in the diagnosis of syphilis. Care must be taken in diagnosis or early cases of syphilis will be missed and thereby allowed to spread the infection and non-syphilitics will be called syphilitics and rendered the injustice of being subjected to long regimes of unnecessary therapy.

Physicians can usually be classified into three groups with respect to the manner in which they go about making a diagnosis of syphilis. First, there is the physician who relies entirely upon the blood test. The entry he usually places in the clinical record is as follows: "Wassermann, positive; diagnosis syphilis, treatment begun." History and physical findings are absent. He usually begins treating a patient for syphilis on the strength of one positive blood test, sometimes a doubtful one, without any other corroborative evidence of the disease. He is often found worrying over one of his patients who has had one hundred treatments but still has a positive blood showing. Treatment is continued without investigating the spinal fluid findings or the cardiovascular system. The blood, in his opinion, must be rendered negative.

A physician coming within the second group considers his clinical diagnostic ability paramount. Laboratory work is a bore to him. Laboratory findings are always considered by him only helpful aids to substantiate a good clinical diagnosis. He forgets that the demonstration of Treponema pallidum in a chancre is the diagnosis, and the only method so far recognized of making a diagnosis, in seronegative primary syphilis. The clinical appearance of the sore to him is that of a chancre. The darkfield examination is disregarded. The patient is subjected to a long course of antiluetic treatment, and the dangers connected therewith, on the suspicion that the infection is syphilitic. The sore heals remarkably well. In the physician's opinion that clinches the diagnosis. His experience, however, has failed to teach him that a nonspecific sore will also heal rapidly under arsenical therapy.

In between these two groups of extremes there is the physician who has learned that an accurate diagnosis in any condition can be made only after a good history and a complete phyical examination are weighed in the balance opposite the pertinent laboratory work necessary in the case. He realizes that syphilis is frequently symptomless, objectively and subjectively, and, when clinically manifest, easily confused with other conditions. He, therefore, secures all the evidence he can find, puts the pieces together, and derives as much enjoyment doing it as some people do working jigsaw puzzles.

We are fortunate in Mississippi in having physicians in our clinics who come within the last group mentioned. They have made possible much of the progress in the fight against syphilis in the state. With their continued support there is no question about the ultimate success of the syphilis program. However, we cannot be content merely to make a diagnosis of syphilis; we must know the stage or type of syphilis with which we are dealing. Is it early or late syphilis? Is it latent or does it present clinical evidence? Treatment in early syphilis is not the same as that given in late syphilis. Treatment of neurosyphilis is quite different from that which should be administered in cardiovascular syphilis. Futhermore, the follow-up of contacts of early cases and the follow-up of early cases that have lapsed treatment is imperative in controlling the disease. The only way in which this can be done is to have the cases properly classified before treatment is begun.

The State Board of Health has distributed a new clinical record form for clinic use, designed to facilitate the classification of syphilis cases. The classification is simple. It divides the disease into two large groups, acquired and congenital. Acquired syphilis is then divided into early and late, syphilitic infection of less than four years' duration being early and that of more than four years' duration late. Each type is further divided into manifest and latent. Manifest syphilis presents clinical evidence; latent syphilis no clinical evidence, only positive serological findings.

A history of syphilis often cannot be elicited in a patient who has the disease. This is not because the patient is unwilling to divulge the truth. Often he has forgotten mild early symptoms of syphilis. Then again there never may have been any early signs of syphilis present. The latter is often true in women, one out of every three of whom never have had any early signs of which they were conscious. The same is true in one out of every five males. When the date of infection cannot be determined, in the case of latent syphilis all patients who are under 25 years of age should be considered as having early latent syphilis and all over 25 years of age late latent syphilis.

The congenital group is not further divided on the clinical record. Congenital syphilis in children under two years of age is usually considered early congenital syphilis. That in those over two years of age, late congenital syphilis.

The "4-plus blood test" is an obsolete term in the sense that it is supposed to indicate a severe infection. It was once thought that a 4-plus serological reaction indicated a more overwhelming infection than that of a 2-plus or 3-plus reaction. We now know that there is very little difference in the amount of reagin in those blood specimens which give a 2-plus or 3 -plus reaction (incomplete complement fixation or incomplete precipitation) and those which contain just enough reagin to give a 4-plus reaction (complete complement fixation or complete precipitation). On the other hand, complete complement fixation and complete precipitation are given by sera which vary widely in their reagin content over a certain minimum. Quantitative determinations will vary from a few units of reagin up to thousands in sera which give this reaction. The plus signs are therefore superfluous, only indicating the transition from negative to positive sera or sera of minimum reagin content. Sera are now regarded as positive, doubtful or negative and are so reported by the state hygienic laboratory. A positive test indicates complete complement fixation in the case of the Wassermann reaction and complete precipitation in the case of the flocculation tests; a doubtful test indicates complete fixation and precipitation (minimum quantities of reagin); a negative test indicates no fixation or precipitation.

The doubtful test means the presence of small quantities of reagin. If a history of syphilis can be elicited, or the patient has had antisyphilitic treatment, or, in the case of women, the presence of syphilitic infection can be proved in their children, there can be little doubt but that a doubtful test means syphilis. If a doubtful test is present with no corroborative evidence of syphilis, the situation is not so easy to solve. Repeated tests should be made. A series of doubtful and negative reports will pretty well exclude syphilis; a series of doubtful and positive reports will confirm syphilis.

False positive and false doubtful as well as false negative serological reactions may occur. Also, in a busy clinic the blood specimen may not have been labeled properly. That is why it is important to take a second blood specimen, especially in cases where the first specimen is positive in the absence of definite clinical findings, before a diagnosis of syphilis is made or ruled out. A false positive or doubtful reaction may be present in malaria, leprosy, infectious mononucleosis, tuberculosis, the acute fevers, yaws and other spirochetal diseases. It has also been shown that the blood in healthy nonsyphilitic individuals contains small quantities of reagin, making possible false positve or doubtful reactions if the laboratory "steps up" the sensitivity of the test. Normal women during menstruation may give positive serological reactions. On the other hand, pregnancy has a favorable influence on syphilis and may produce a negative reaction. False negative reactions are seen in overwhelming infections where there is an excess of syphilitic reagin. Dilution of the serum in the laboratory allows the recognition of such zone reactions. A laboratory in which the tests are of a low sensitivity will report false negative reactions. These are but a few reasons why the patient and the serological findings should be thoroughly studied before a diagnosis of syphilis is made or ruled out.

When a blood specimen is received by the State Hygienic Laboratory the first test performed on it is the Kline exclusion test. The exclusion test is designed to be of extremely high sensitivity so that it will pick up all cases of syphilis. In doing so it will also produce a number of false positive reactions. In the case of a positive Kline exclusion test, two diagnostic serological reactions are performed on the blood specimen. One of these is the Wassermann, a complement fixation reaction, the other the Kline diagnostic test, a flocculation reaction. The results of the latter two tests are reported on the laboratory slip. The flocculation test is about ten per cent more sensitive than the Wassermann and often the flocculation test will be positive and the complement fixation negative. If the Kline exclusion test is negative no further tests are made and the report is Kline exclusion negative.

A few reasons have been set forth why it is important to study the patient and the laboratory findings before a diagnosis of syphilis is made or ruled out. In hardly any other disease is it so important to do this as in syphilis because of the nature of the disease and because of the long intensive, and sometimes dangerous treatment régime to which a patient having syphilis must be subjected.

RESOLUTION

Whereas, Man on God's foot-stool has a time to come and a time to go, all ordained by Him, who sees the sparrow's fall, and

Whereas, Life's tenure is commensurate not with years but in deeds wrought, a few years of consecrated service outnumbering many more spent in self aggrandisement, and

Whereas, It is given unto few men to combine the noble qualities of ability and willingness to labor for the good of those less fortunate, and

Whereas, The doctor, worthy of the name, is a good son, upright citizen, faithful husband and father, humble follower of the Great Physician, whose life is entered upon with expectancy and is closed with profit, and

Whereas, There has been removed from us. in the prime of his usefulness, such a man in the person of Dr. Frank Hagaman, a man whose training peculiarly fitted him for the high vocation he followed with distinction to himself, honor to the profession and great benefit to the laity; a man, whose relationship in the home endeared him to those close to the inner circle; a man, whose conduct in civic affairs was above reproach: a man, whose church affiliation was an exemplification of what a Christian should be, therefore,

Be it resolved, By The Mississippi Chapter of The American College of Surgeons, in session in New Orleans, La., this the 17th day of January, 1940, that in the passing of our dear friend, Dr. Frank Hagaman, this organization has lost a true exponent of the Art of Surgery, the home a faithful head, the community an honored citizen and the Church of God a proved follower of its teachings, and

Be it further resolved, That a copy of these resolutions be spread upon the minutes of this organization and a copy be forwarded to the family of our departed confrere.

J. P. WALL,
W. W. CRAWFORD,
J. GOULD GARDNER,
—Committee.

COAHOMA COUNTY MEDICAL SOCIETY and CLARKSDALE HOSPITAL MEDICAL STAFF

Minutes:

The Coahoma County Medical Society and the Clarksdale Hospital Medical Staff held their regular monthly meeting at the Alcazar Hotel at 12 noon, Wednesday, January 10. The minutes of the previous meeting were approved as read. Dr. D. H. Griffin made a resolution that we should invite all druggists in Clarksdale to meet with us at our next regular meeting in February. This was seconded by

Dr. J. A. Slack. The president instructed the secretary to send out notices to the druggists at the same time as the doctors, to notify them of the Dutch luncheon which they are invited to attend in a joint meeting with us.

Dr. E. L. Wilkins then presented a paper on "Acute Ears." This paper was enjoyed and discussed by all members present.

There being no further business, the meeting was adjourned.

January 10, 1930 Julius L. Levy, M.D.,
Clarksdale, Miss. Secretary and Treasurer

DeSOTO COUNTY

In an article on the Memphis meeting of the S. M. A., I failed to mention the election of Dr. Henry C. Ricks of Jackson as Secretary of the Section on Public Health; Mrs. W. H. Anderson, Booneville, Parliamentarian, Woman's Auxiliary to the S. M. A.; Dr. C. B. Mitchell, Vice-President, Mississippi Valley Student Health Association, State College; Mrs. R. H. Clark, Hattiesburg, Councilor Woman's Auxiliary to the S. M. A.; Mrs. D. J. Williams of Gulfport was president of the Auxiliary in 1926.

In 1939 Mississippi membership was 372, the largest in seven years, the entire membership for 1939 was 7463; the registration for our state in this meeting was physicians 215, ladies accomplishing 77. Grand total attending 4263. There were 385 Memphis physicians registered, 711 in Tennessee outside of Memphis.

As heretofore stated, Memphis and Shelby County Medical Society met every requirement in entertaining the Southern Medical Association. Dr. W. L. Williamson as General Chairman and all associates acquitted themselves well. Memphis has been a leader as a medical service center. It has superior hospital advantages and physicians and surgeons of noted ability.

The Memphis and Shelby County Medical Society has a membership of 368. This society takes a vigorous stand against socialized or state controlled medicine. It resents, and is opposing in every way possible, making medicine a political football bearing in mind primarily and foremost the welfare of the sick and those who go down into the Valley of the Shadows to bring another life into being, together with all the others who need help to have health.

In the past Memphis has suffered extensively from prevailing epidemics, notably yellow fever. In his report to the Howard Association after the last great scourge, Dr. Robert W. Mitchell, speaking of the medical profession, said, "They met every test of professional integrity, courage and devotion to duty." A number of them paid the supreme sacrifice. Dr. Mitchell was associated with Dr. R. B. Maury for a number of years and had one of the first sanitariums in the Mid-South. Dr. Mitchell was a Mississippian by birth, a Confederate surgeon and a physician and man of the highest type. While interning in the General Hospital in Memphis, I had the fine privilege of knowing this great man, playing cards with him, smoking his stoges and listening with delightful interest to him relating in his inimitable way his vast experiences of a large and useful life.

At a meeting of the DeSoto County Medical Society held January 2, 1940, after a business session, the following officers were elected for the ensuing year: President, Dr. Denver C. Funderburke of Olive Branch; Vice-President, Dr. J. M. Wright of Hernando; Secretary-Treasurer, Dr. L. L. Minor, of Rt. 4, Memphis, Tenn.; Delegate to State Association, Dr. A. L. Emerson of Hernando; Alternate Delegate, Dr. A. V. Richmond of Lake Cormorant; Censors: Drs. C. W. Emerson, J. A. Rhodes and H. M. Wadsworth. After completion of morning session, on invitation of our senior member, Dr. Angus Leslie Emerson, we enjoyed a course dinner at the Garratt Cafe. Dr. Emerson has been a member of the medical society since his graduation. He has been active in all good works and no one is held in higher esteem than this good and sincere doctor.

In announcing this meeting in the county press, the attention of the laity was called to the necessity of calling in the physician when first taken ill or injured. By education and study he is able to give fit and proper attention to all of his medical needs. In these days medicine is so scientific and surgery so expert.

We do not think it amiss again to mention the progress our health department is making. The personnel is here given: Dr. J. W. Evans, director; Mr. Herbert Moore, sanitary supervisor; Miss Sibyl Freeman and Miss Turner Niven, nurses; Miss Christine Denham and Miss Elizabeth Lee, clerks.

Health is purchaseable by improved sanitary conditions, correct living and prevention of various diseases.

The work is going along harmoniously. Dr. Evans and his aides are courteous and efficient.

Each month the director publishes a narrative report of his department's activities, which is sent to the physicians and other interested parties.

The Staff of Vicksburg Sanitarium announces the association of Lucian Minor Ferris, B.S., M.D., internal medicine. This young man has a name that is familiar to the Minor family. His worthy parents, Mr. and Mrs. Eugene Ferris, live at Holly Springs. Mr. Ferris has been connected with the U. S. Department of Agriculture and Mississippi State College for a number of years. His grand-parents, Mr. and Mrs. Eugene Ferris, resided near Decatur, Ala., but have passed on their eternal award. We wish to pay this tribute to Lucian Minor's grandmother, aunt Sally Minor Ferris, with whom we lived for the better part of two years. I never knew one of a higher Christ-like character; she was quiet, dignified, a steadfast reader of and a firm believer in the Holy Bible, contrite and one in whose spirit there was no guile. She left a rich legacy of an unselfish and devout life.

We have a daughter named Sally who has many of her likenesses. We spell it Sally, not the sophisticated Sallie, though this is not objectionable.

You remember reading Irwin S. Cobb stories about old Judge Priest; the honorable Jefferson Davis being one of the nation's greatest statesmen; Robert E. Lee, Stonewall Jackson, James Longstreet, Braxton Bragg and Nathan B. Forrest among the greatest generals of all time. Many of us agree with him.

We want to mention also General Stephen Dill Lee of Columbus, who was president of the old A. & M. College for a number of years.

Favorite Son Keynoter

Back home the folks are all puffed up with pride. Our own Albin W. Barkley keynoted for the Democratic convention until the rafters warped.

Besides being a grand person and a hard-working senator, he's one of the last of the real Southern silver-tongued—the kind that can make a song of a syllable and turn any reasonably long word into an anthem.

And does he come from the place where the true faith prevails? The majority stabilized just as soon as we got a lot of old-timers to quit voting for Jeff Davis. We weaned them on W. J. Bryan. Ours is probably the only congressional district in the Union that never has gone Republican, although, when Al Smith ran, it had a comparatively close call from going Baptist.

Let the creatures of entrenched greed beware. As goes Paducah, so goes Paducah.

—Irvin S. Cobb.

A Loose Tongue

Never yet did any man repent of having spoken too little, whereas many have been sorry that they have spoken too much.—Arabian Nights.

It is as easy to call back a stone thrown from the hand, as to call back the word that is spoken.—Menander.

"Immodest words admit of no defense,
For want of decency is want of sense."

—Dielon.

The whale is the mightiest mammal that has ever lived on our planet, some have weighed over 115 tons; the largest size being sometime 100 feet long. Though it looks like a fish and can live only in water, the whale would drown like any land animal if it could not come up frequently to breathe, and it suckles its young on milk which is not essentially different from cow's milk. The female is of the species, as usual, and is more dangerous than the male; she is called a cow and the offspring a calf. There are many kinds of whale, some have throats large enough to swallow a seal or shark and could easily have swallowed the doughty Jonah, the well known prophet. The "spouting" is produced by air forcibly discharged from the lungs. At nursing time the calf demonstrates its playful affection by leaping and splashing around its mother until sharply called to the business at hand by several slaps from her long flippers. The calves, 15 or more feet in length, weigh as much as 3,000 pounds at birth, nurse for about a year.

The most valued of all whale products is ambergris, a grayish, spongy substance which is found only in the intestine of sick whales. It is highly valued in perfumery.

Rt. 4, Memphis, Tenn. L. L. Minor,
Jan. 18, 1940. County Editor.

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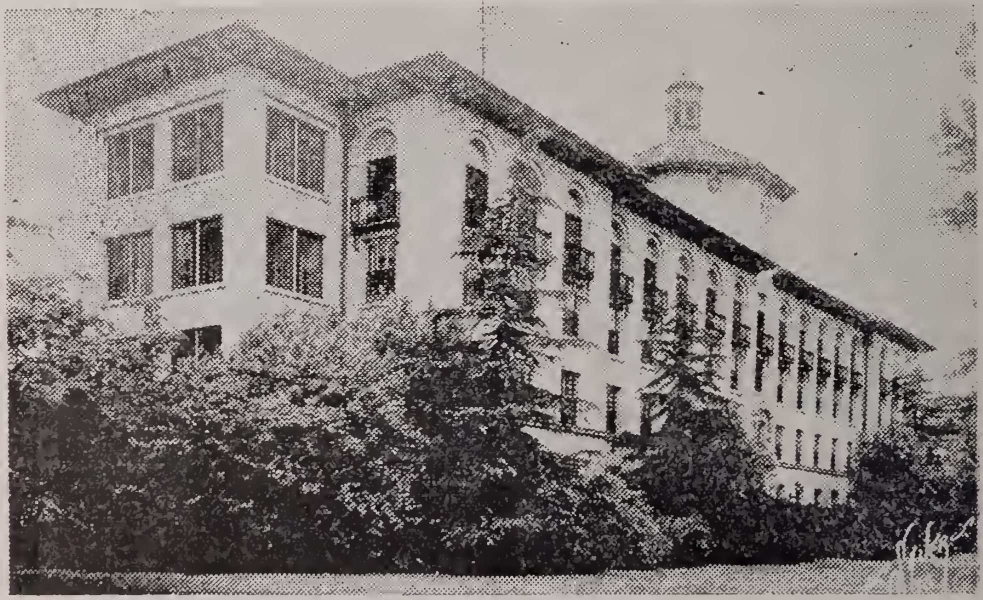

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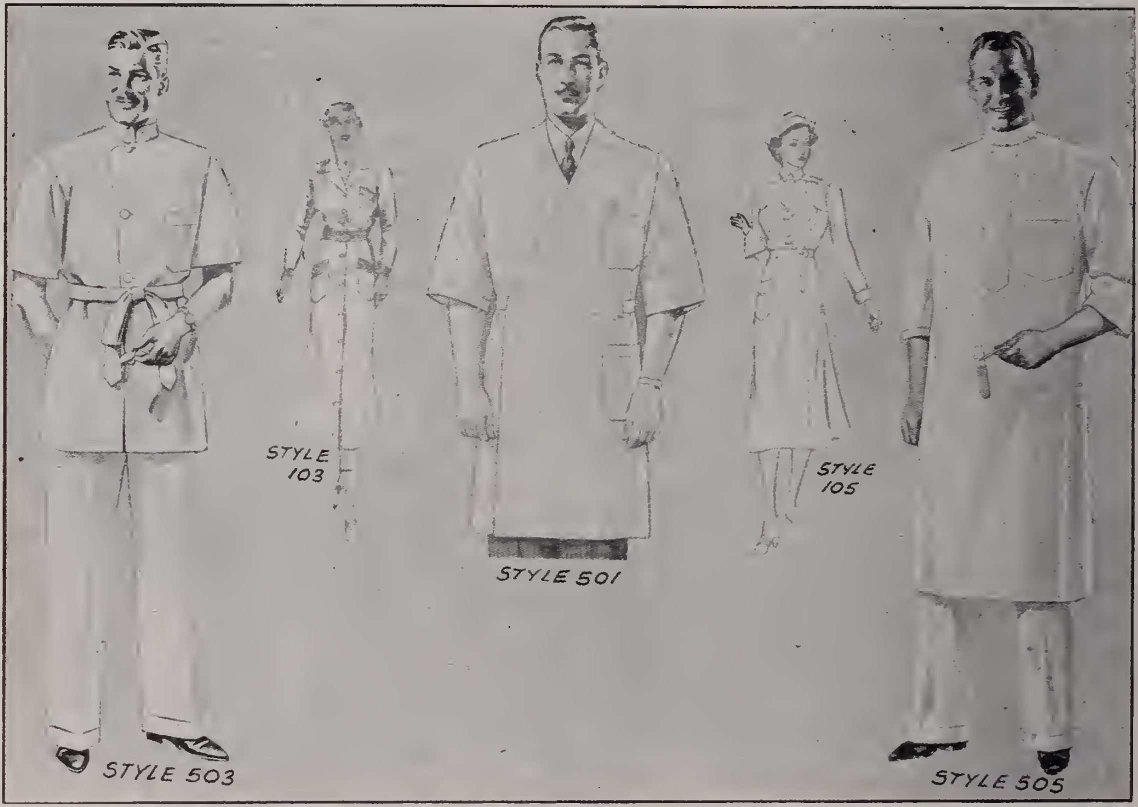
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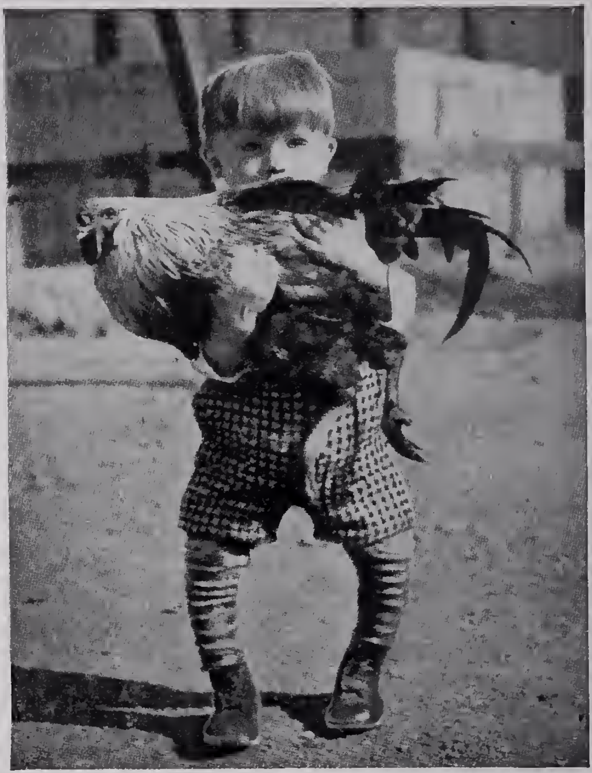

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Hypertension and Its Peculiarities*

REGINALD FITZ, M.D.†
BOSTON, MASS.

TWENTY YEARS ago, to most of us who had been in France with the American Expeditionary Force and had returned home and were beginning to become reaccustomed to the civilian way of doing things, hypertension was an uninteresting clinical peculiarity. For myself I can only say that when I saw a patient with high blood pressure I felt sorry; sorry for the patient because there seemed so little to do for him, and sorry for myself because I knew so little about what the state of high blood pressure signified except an ominous prognosis with a cerebral vascular accident, uremia, or heart failure at the end.

Many things happen in twenty years. My interest in hypertension first began to grow at the Mayo Clnic when I heard Dr. C. H. Mayo describe his famous case. Said he, "My patient, a woman, had a high blood pressure and it would jump suddenly from 130 to 280 or 300 mm. of mercury. Not knowing what else to do I planned to explore her abdominal brain, the upper part of the abdomen in which region are the kidneys, the pancreas, liver, spleen, suprarenal glands, the sympathetic ganglia and the parasympathetic nervous system. I found a tumor resting across a kidney and on a suprarenal gland. Removal of this tumor cured the high blood pressure, a cure which already has lasted for five years." Obviously, this meant that if one were as keen as Dr. C. H. Mayo and able to discover a medullary tumor of the adrenal gland which was causing hypertension, its removal actually might do away with the high blood pressure. From now on, the treatment of hypertension appeared to have unsuspected surgical implications.

The growth of my interest in the surgical approach to hypertension was further accelerated by another Mayo Clinic contribution. Dr. G. G. Richards and I made a clinical trip to Rochester in the fall of 1936. We well remember a happening there which, when we meet, we still talk over. We heard Dr. Adson speak at the staff meeting. We knew that for some time Adson had been studying the possible value of sympathectomy for the treatment of hypertension. Now we heard him discuss the matter in terms of end results. He said that in his experience and in the experience of the men working with him the surgical treatment of hypertension by sympathectomy seemed advisable in certain selected hypertensive patients whose hypertension was believed to be progressive, if the function of the heart and kidneys was good, and if the value for the blood pressure became normal or approximately normal as the result of sleep or following the intravenous injection of hypnotics like amytal or pentothal of sodium. On the other hand, operation was not indicated in cases with advanced, fixed hypertension or in patients with evidence of organic heart disease, beginning renal insufficiency, or with marked eye-ground changes. He presented an interesting table of end results obtained in thirty-one cases followed for six months after operation. Of the group, thirteen had returned to their former work, nine more were able to carry on a gainful occupation of some sort, and only one had died.

He ended by saying that although the interval of time from the date of operation to his present review of the cases still was comparatively short, he believed that he was justified in expressing an opinion that extensive subdiaphragmatic sympathectomy had been of value not only in relieving these patients of clinical symptoms but also in lowering their blood pressure levels for a considerable period of time. This was a stimulating presentation, conservatively delivered. To me it made the literature on the treatment of hypertension by sympathectomy become alive and worth following, and it made the surgeons working in the field of sympathetic nervous system surgery companionable Don Quixotes tilting at windmills worth while.

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†From the Robert Dawson Evans Memorial for Clinical Research and Preventive Medicine, Massachusetts Hospitals, Boston.

In that same year I attended a meeting of the International Postgraduate Assembly at St. Paul and there, too, I learned something about hypertension that prodded my imagination from another point of view. The Metropolitan Life Insurance Company of New York exhibited several interesting charts showing, from the way a life insurance company looks at illness, that cardiovascular-renal disease stands first in the mortality list today and is responsible for more than a half million deaths each year. This particular method of approach also brought out certain peculiarities about this group of diseases, familiar to many physicians, no doubt, but hitting one in the eye with great force when graphically illustrated.

Cardiorenal disease, for example, picks out professional men and hard manual laborers, whereas agricultural workers are less liable to develop it. Their mortality from heart or kidney disease is about half that of the unskilled laborer or the professional man. Evidently, too, it makes a difference where a man lives. Cardiorenal disease is more commonly fatal in New England than in California or Florida, and a more serious hazard in Massachusetts than in the South or Middle West. These facts struck me as being important, bringing to mind, as they did, certain definite therapeutic implications.

I met Dr. Harry Goldblatt, of Cleveland, in 1938, when he received the John Phillips Memorial award at the meeting of the American College of Physicians. His work was impressive for he had been able to produce hypertension experimentally by the use of a very ingenious method. He caused ischemia of the kidney by clamping the main renal artery with varying degrees of constriction. From his early experiments he concluded that such renal ischemia, even if it involved but one kidney, produced in animals, at least, a persistently elevated blood pressure which could be done away with by removing the clamp or the damaged kidney: and he showed that almost complete constriction of both renal arteries resulted eventually in marked hypertension, complicated, at last, by severe disturbance of renal function and uremia. This was an interesting thought: the experimental production of a condition analogous to malignant hypertension seemed to have been accomplished, and the conception introduced that a unilateral atrophied kidney might not be altogether innocuous.

In a surprisingly short time after Goldblatt's early papers were published, clinicians seized on his ideas and began to report cases behaving not unlike his animals. In other words, isolated individuals with hypertension began to be described in which high blood pressure appeared to be done away with by the removal of a kidney with a lesion which had produced renal ischemia; cases, for example, of unilateral atrophic kidney due to a congenital anomaly of the renal artery.

Individuals such as these with hypertension from now on seemed worth looking for. For if they could be recognized and properly treated it seemd as if they easily might form a group in which hypertension could be cured by still another form of surgical approach.

In May, 1938, at Atlantic City, I attended the annual meeting of the Association of American Physicians. There I heard an interesting communication from Dr. Soma Weiss, of Boston. He and Dr. Frederick Parker, Jr., had recently analyzed a hundred selected cases of pyelonephritis encountered in the Mallory Institute of the Boston City Hospital. Dr. Weiss emphasized the importance of pyelonephritis in relation to chronic nephritis. In fact, he concluded that pyelonephritis was responsible for between 15% and 20% of all cases of malignant hypertension. The corollary to this, of course, was that pyelonephritis should henceforward be regarded as a very significant disease, for it is one form of renal disorder which can be treated effectively in its incipient stage. If Weiss and Parker are correct, the adequate treatment of acute pyelitis well may be an important preventive measure against the subsequent development of a very common and hopeless form of chronic Bright's disease.

To me, because of progress such as this that has been made recently in its study, hypertension has become an exciting condition, utterly different from what it was twenty years ago. When faced with a patient who has high blood pressure one must now make sure that there is no adrenal tumor as its cause or no unilateral renal lesion producing ischemia, one may properly ask whether the patient is likely to be benefited by sympathectomy, and one must be as certain as possible of the underlying diagnosis. On the other hand, one must not be led astray too quickly by new ideas. A good deal of sound clinical knowledge already is established regarding the management of many cases of hypertension. One must not forget the therapeutic importance of a well-regulated life, of common sense in treatment, of weight control, of rest, of the shrewd use of digitalis, and that there is such a condition as benign hypertension, a harmless condition running along for years which is best treated by being severely left alone.

Today I propose to present, in the form of a clinic, four cases. They will serve to illustrate certain phases of hypertension and its peculiarities.

Mrs. A. is 74 years old, an unusually spry lady who certainly does not look her age. Her father died of tuberculosis and her mother in childbirth, each when they were about thirty years old. Mrs. A. has never been pregnant. On the whole, she has enjoyed good health except for an attack of typhoid fever half a century ago.

I first saw her in 1924, nearly sixteen years ago, when she entered the Peter Bent Brigham Hospital in diabetic coma. Apparently the diabetes was recognized in 1921. She got along as best she could for the next three years without much success, and finally came to the hospital close to the dead line. She was semi-conscious, badly dehydrated, and with a systolic blood pressure of 94, the diastolic pressure being 60. Thanks to insulin she made a good recovery, and since August 1925, a little over fourteen years ago, she has been coming to see me at periodic intervals. During the last fourteen years she has had no major illness and scarcely a day of minor illness. In fact she has been a cheerful, busy, active member of society. Needless to say, she has taken insulin regularly and always has been essentially sugar-free.

The manner in which her blood pressure, the non-protein nitrogen of her blood, and the excretion of albumin in the urine have behaved is striking.

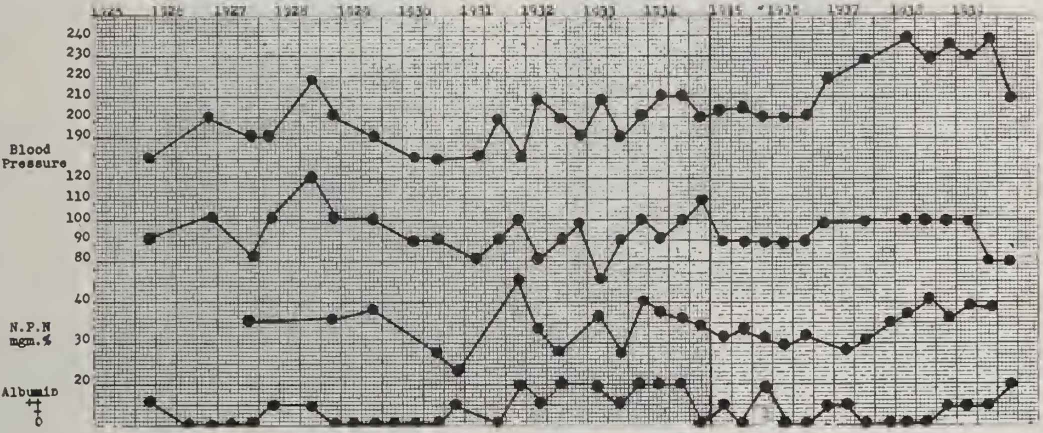


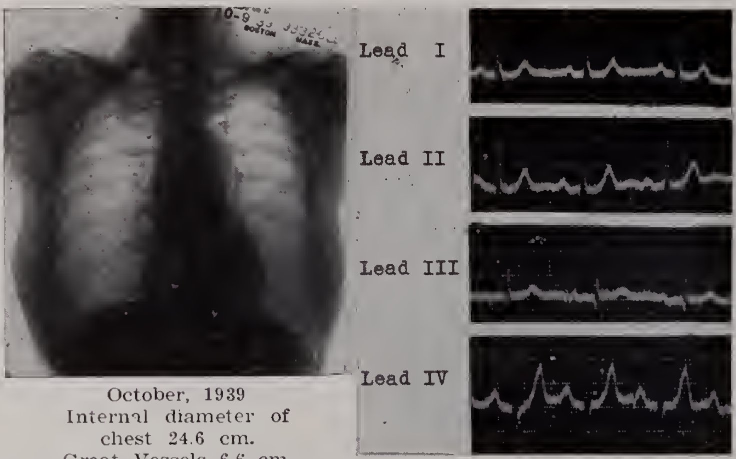
Figure 1. The blood pressure curve in benign hypertension.

Mrs. A. has had hypertension persistently when she is up and about and the blood pressure level has tended to become higher rather than lower, little by little, as the years have gone by: on the other hand, the diastolic pressure has varied but little. The non-protein nitrogen concentration of the blood has had its ups and downs. Possibly, though this is by no means definite, there has been some correlation between an increased output of albumin in the urine and a temporary rise in blood nitrogen. I am inclined to believe that Mrs. A. has chronic pyelonephritis as the underlying cause of her hypertension and that the peaks and valleys in nitrogen retention and albuminuria are due to minor acute exacerbation of this renal lesion.

During all these years Mrs. A. has had no treatment of any sort for hypertension or kidney disease. She has been encouraged to do as she chose within reasonable limits of fatigue. Whatever is the cause of it, her hypertension has been a benign, harmless affair, producing no measurable harm.

Last October an x-ray film of the chest was made and an electrocardiographic tracing was taken. Why is it that in spite of so long-continued hypertension with resultant increased strain on the heart that no appreciable cardiac enlargement has occurred?

I believe that the answer to this question depends on the fact that Mrs. A.'s heart is not diseased and that the coronary circulation is relatively normal; the heart sounds are of good quality, the electrocardiographic tracing is normal, and there have been no symptoms of angina pectoris or congestive failure.



October, 1939
Internal diameter of chest 24.6 cm.
Great Vessels 6.6 cm.
Transverse diameter of heart 11.3 cm.

October, 1939
Normal tracing.

Figure 2. The size of the heart and the electrocardiographic tracing after fourteen years of benign hypertension. The heart is not measurably enlarged. The tracing is normal.

The manner in which a diseased heart may hypertrophy in the presence of even moderate hypertension was forcefully brought to my attention by a patient with periarteritis nodosa. In this instance, within the comparatively short space of eleven months there developed a notable increase in the size of the cardiac silhouette. During this period of time the blood pressure rose by degrees but never to so high a level or so persistently as in the case of Mrs. A. At necropsy the heart weighed 460 gms., so that it was hypertrophied and not dilated. The heart muscle was not normal but was badly diseased, secondary to periarterial lesions around the finer myocar-

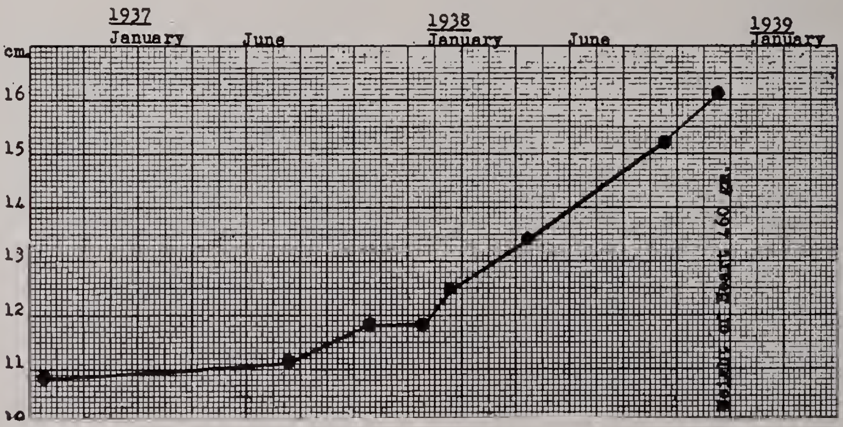


Figure 3. The rapidity with which progressive increase in the diameter of the heart shadow as measured roentgenographically may develop in the presence of hypertension when the heart muscle is diseased. From a case of periarteritis nodosa. (After Fitz, Parks and Branch, Arch. Int. Med., 64:1133-1155, Dec., 1939).

dial blood vessels. These experiences make me suspect that the normal heart muscle can stand long-continued hypertension without undue difficulty whereas the diseased myocardium cannot, and that the size of the heart in hypertension is of very important significance. The hypertrophied heart means a diseased heart. A diseased heart means that the hypertension is not benign and connotes a poor prognosis. Operative procedures of any kind for hypertension are unlikely to be successful in the presence of any form of heart disease.

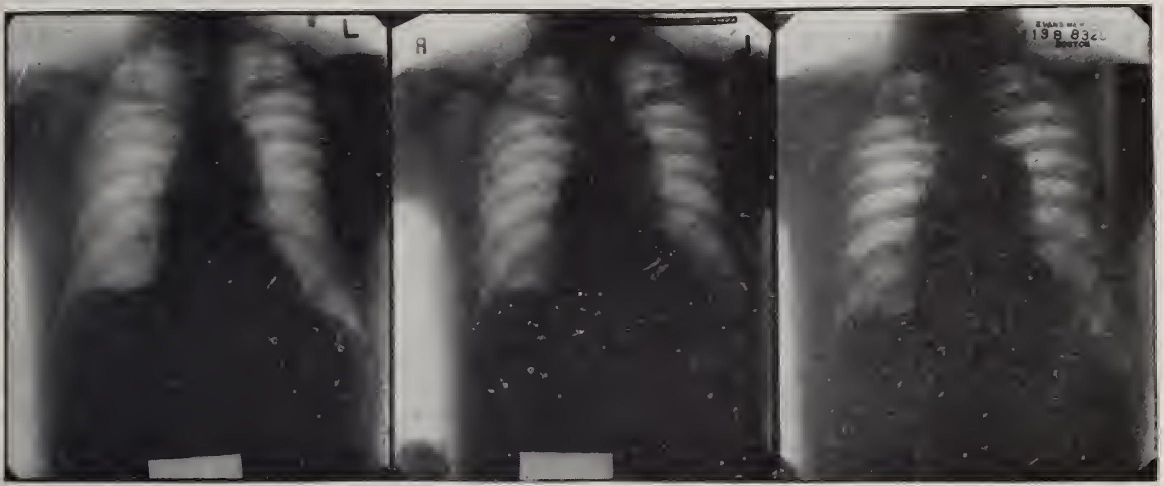
I am satisfied with the therapeutic result which has been obtained in the case of Mrs. A., and, better still, so is she. She has benign hypertension. No other treatment than the sensible way of living she has followed could have improved her life expectancy or her sense of well-being. She belongs to that group of people who get along the better, the less their attention is directed to the blood pressure machine and its readings and for whom no treatment is most successful.

The second case tells a different story:

Mr. C. N. S. lived to be sixty-one years old. His family history, from the viewpoint of longevity, was excellent, for his father lived to be more than seventy-seven and his mother died at seventy-two. Mr. S. regarded himself as a healthy man until 1929, ten years before his death. He recalled no serious illness beyond an appendectomy in 1911 and a tonsillectomy for chronic tonsillitis in 1926. He wished to take out additional life insurance in 1929 but the life insurance examiner discovered that he had hypertension and rejected him. When I examined him for the first time it was evident that he had hypertension and more peripheral sclerosis than do many men of his age though the heart seemed normal, the eye-grounds were normal, and the urine was normal.

During the years that I followed his case the blood pressure was persistently elevated. He had occasional headaches but these never were very bad; what was more significant, as one looks backwards, were his attacks of "indigestion." In 1932 he first complained of "gas," coming in attacks of short duration but not particularly painful. In 1933 he complained of "heart-burn and sour eructations" when he worked under pressure. In 1934 he began to have attacks of substernal discomfort as though there were "gas" which wanted to come up. In 1937 these symptoms changed and he began having vague, infrequent attacks of an ill-defined discomfort in his chest followed by lameness in the left arm. In 1938, one night he suddenly woke up with a sharp, short, uncomfortable attack of pain, unmistakably precordial. In 1939 he went to a business meeting, read certain resolutions, suddenly collapsed, and died.

Here is a typical story: hypertension first recognized by life insurance examination, maintained at a high level, complicated by angina



April 18, 1929
Aorta 8.2 cm.
Heart width 13.2 cm.
No murmurs.

October 17, 1934
Aorta 9.2
Heart width 14.2
Systolic murmur at base.

November 2, 1938
Aorta 11.2
Heart width 15.5
Double murmur at base.

Fig. 4. The change in the size and shape of the heart in hypertension with coronary sclerosis.

pectoris, and ending fatally—the whole process running its course in ten years from the time high blood pressure was discovered.

In this case, as in the case of Mrs. A., the blood pressure always was elevated at each observation and the trend of the blood pressure level was upwards. There was very little evidence of renal damage though in the last year the blood non-protein nitrogen commenced to rise a little and persistent albuminuria developed.

The manner in which the heart behaved in contrast to the case of Mrs, A. is worth emphasizing. A slight but none the less definite increase in the size of the cardiac silhouette occurred during the ten-year period. The aorta always was dilated and tortuous.

At first no murmurs were audible, then there developed an unmistakable systolic murmur at the base of the heart, and finally a diastolic murmur as well. To hear a diastolic murmur at the base of the heart in hypertension is not unusual. Such a murmur does not necessarily mean a valvular lesion but in the presence of hypertension is apt to signify relative aortic insufficiency from a dilated aortic ring.

The electrocardiographic tracings, too, are interesting. They were remarkably negative and unchanged. About all that the most meticulous critic could say of them is that the T-wave in the first lead became diphasic and the T-wave in the third lead was abnormally flattened; yet, undoubtedly, the heart was badly diseased, and there was much coronary sclerosis.

This case well emphasizes the importance of clinical observation in the management of hypertension and that mechanical aids in diagnosis and prognosis, on the whole, are not of tremendous importance.

Could anything have been done to delay the development of vascular disease in this patient's case or to postpone the outcome? I believe, in light of present knowledge, that when the patient first was examined in 1929 he might well have been more carefully studied. For at that time, while he had peripheral vessels which were easily palpable, yet the eye-grounds were not remarkable, the renal function was normal as judged by the urine, the blood non-protein nitrogen concentration, and the phenolphthalein excretion which was 65% in two hours and ten minutes. The heart seemed normal to percussion and auscultation. The electrocardiographic tracing, too, was irreproachable, and by x-ray examination the aorta was seen to be dilated and tortuous, as so often is true in hypertensive individuals, yet the heart was not hypertrophied, and the appearance of the cardiac silhouette was normal.

Given a man of 51 with these findings and it seems to me he deserves a very thorough study. Is the blood pressure persistently elevated or does it tend toward normal with rest? What happens to the blood pressure during sleep? Is there a fixed blood pressure level to such tests as immersion of a hand in cold water, a test of some value since cold water immersion will not affect fixed hypertension whereas it will notably affect the person with labile tension? Is the hypertension cyclic in character with variation in level from day to day or from hour to hour? Such a finding was one of the striking features in Dr. C. H. Mayo's patient with a tumor of the adrenal medulla. What can be made of the appearance of the kidneys by intravenous or retrograde pyelograms? Patients with a unilateral renal lesion may show clinical findings not unlike the ones presented here.

Studies such as these, therefore, might well have been carried out in the case of Mr, S. when I first saw him. Instead, because the patient was concerned over his tension and because, to be properly honest, ten years ago I had not the same conviction regarding the investigation of patients with high blood pressure as I have today, a course of expectant treatment was pursued. There is no telling whether any other form of treatment than the one pursued would have made any difference. I believe, however, that enough progress has been made in the management of hypertension that patients like Mr. S. now deserve very careful diagnostic study. Patients likely to do well under some form of surgical therapy must be selected very carefully, and the most appropriate time for surgery is likely to pass by quickly and to be missed by undue delay.

The third case illustrates the possibilities of surgery of the sympathetic nervous system in selected cases of hypertension.

Mrs. M. is thirty-one years old. Her family history, from the viewpoint of vascular disease, is negative. She was married four years ago and so far has had no children. She enjoyed good health until shortly after her marriage when she began having uncomfortable headaches, soon bad enough to make her seek medical advice. Her family doctor discovered that she had hypertension. He gave her sensible advice in regard to rest and hygiene but the headache and hypertension persisted. She came to the hospital for study a little over a year ago. She weighed 60 kg., a level of weight that she had maintained for a long time. The physical examination was negative except for an initial blood pressure of 200 systolic over 130 diastolic. The eye-grounds appeared normal; the heart was normal both to ordinary examination, by x-ray, and by electrocardiographic tracing. The urine was normal, and the renal function was normal as judged by the blood chemistry and phenosulphonphthalein test. The basal metabolic rate was normal.

The patient was put to bed. The effect of rest on the blood pressure level was striking.

Certainly Mrs. M. did not have cyclic hypertension but a form of hypertension very amenable to rest and tending to reach normal as she remained quiet. That she had no fixed hypertension, too, is shown by her vascular response to immersion of a hand in ice water.

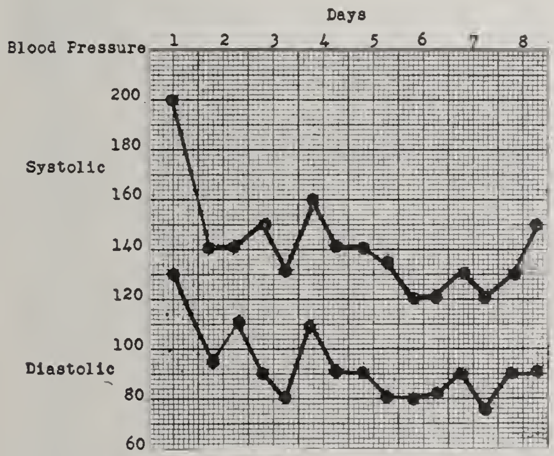


Figure 5. The effect of rest on the blood pressure level in early benign hypertension. Under rest the tension tends to fall toward normal.

There was an immediate rise in blood pressure in response to this test, followed by a quick return to normal when the stimulus of cold was removed.

Mrs. M. appeared to be not unlike the type of patient which Dr. Adson had reported as doing so well by sympathectomy, with hypertension believed to be progressive, with good function of the heart and kidneys, and with blood pressure values becoming normal or approximately normal as the result of rest.

Dr. R. H. Smithwick, of the Massachusetts General Hospital, performed an extensive sympathectomy on Mrs. M. a year ago. Today, the patient says that she feels perfectly well. She has gained nearly ten pounds in weight. She has had no headache since the operation was completed, and appears to be as lively as a cricket. There is no doubt in her mind about the beneficial effect of the operation in her case. She is a different person.

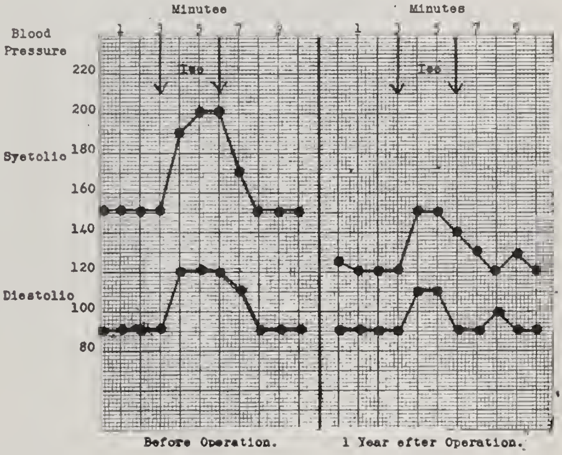


Figure 6. The effect on the blood pressure of immersion of a hand in ice water before and a year after extensive lumbar sympathectomy.

When the blood pressure was taken today and while she was still stirred up, the reading was 140 systolic over 90 diastolic. After a few minutes' rest the level fell to 120 systolic. The heart does not seem enlarged and the sounds are normal; the eye-grounds are normal; and the urine is normal. Immersion of the hand in ice water now produced a less marked response to the stimulus of cold than a year ago.

Apparently here, as in Adson's cases, extensive sympathectomy was of value not only in relieving this patient of her clinical symptoms but also in lowering the blood pressure level for a considerable period of time. She has not been observed for a sufficiently long time to tell whether the effect of the operation is permanent. She says, however, that now she feels so much better than she felt for several years previously as amply to justify her going through the ordeal of the operation regardless of what may happen in the future.

I have had so little personal experience with the treatment of hypertension by sympathectomy I am able to say little concerning its essential value. One patient, a man of fifty, when I first saw him, had a blood pressure of 235 systolic over 150 diastolic. The heart seemed enlarged, the eye-grounds had scattered patches of old exudate, the urine contained albumin and a few hyaline and granular casts. On the other hand, the blood non-protein nitrogen was only 36 mgm.%, and the phthalein excretion in two hours and ten minutes was more than 40%. This patient had prostrating headache of more than eighteen months' duration, and in general felt so bad that he was ready for anything that might offer relief. He had an extensive bilateral sympathectomy followed by an immediate fall in blood pressure to an ambulatory level of 190 systolic over 120 diastolic. He said, six weeks later, "I feel fine mentally, anyhow, and, absolutely, I am glad I had the operation done." Yet he died within a year of what his doctor termed chronic nephritis. A woman, thirty-four years old, was discovered to have hypertension ten years previously. Her heart was slightly hypertrophied, there were moderate eye-ground changes but no depression of renal function. Sympathectomy caused no particular change in blood pressure six months after operation. The patient, however, thought she felt better and said that she would advise anybody with high blood pressure to go through the operative procedure that she went through.

The first patient suggests to me that sympathectomy, in properly selected cases, may be useful; while the other two suggest that in improperly selected cases the procedure will be of little value. In light of present knowledge, Adson's original viewpoint still is sound. To obtain best results from this type of operation, patients must be selected whose hypertension is believed to be progressive, whose cardiac and renal function seem normal, and whose blood pressure values become normal or approximately normal through rest. I think the surgical approach to the treatment of hypertension by such methods is interesting and worth further unprejudiced study. It still is in the experimental phase and its true value is not yet determined.

My fourth case re-emphasizes the importance of proper selection for operation of hypertensive patients and the need for accurate diagnosis of the underlying disease. This case also demonstrates, from another viewpoint, the benefit that may be obtainable from operation if the right case and the right operation are chosen.

Mr. E. D. is forty years old. He first came into my hands in May, 1937. He was perfectly well until 1934, when while in the tropics he fell ill with chills and fever. He was suspected at first to have malaria but in spite of quinine therapy he continued to be feverish. Then he developed pain in the right side and his appendix was removed. Finally, he was told that he had a cold in the right kidney. Since then, several times a year he suffered from attacks of sharp pain in the right upper quadrant and right loin. He described the pain of these attacks as being severe enough to keep him awake at night, to double him up, but not severe enough to induce nausea or vomiting. About two weeks before he entered the hospital he began to feel ill, complaining of occipital headache, later complicated by an attack of right upper quadrant pain. The physical examination was not remarkable except that the blood pressure was 200 systolic over 130 diastolic, and that there appeared to be palpable a deep-lying, smoothly-rounded mass in the right upper quadrant, moving with respiration and tender to palpation.

In many ways this patient's case was a tragedy of medical errors. From the very start, when appendicitis was misdiagnosed, the various doctors who saw him were led astray. Certainly, I misjudged him.

He had persistent hypertension regardless of bed-rest. He had been in the hospital for two or three weeks when he developed an acute tonsillitis. This was complicated by acute hemorrhagic nephritis which, in turn, was complicated by a great many convulsive seizures, and finally, by an acute hemorrhagic retinitis. Gradually he grew better, so far as the acute renal lesion was concerned, but the high tension persisted, now accompanied by prostrating headaches. His eyesight grew very poor as a result of the hemorrhagic retinitis. He was miserable, with persistent headache, but patient and forlornly devoted to my staff in hopes that we might do something for him.

In December 1937, the situation was reviewed. The eyes were very bad. He had persistent hypertension without cardiac hypertrophy or abnormal cardiac findings. His renal function was normal as judged by the phthalein excretion and blood nitrogen concentration. Retrograde pyelograms were made which appeared to show, on both sides, a normal filling of the renal pelvis, calyces, and ureters. He was ready for anything; hence, bilateral lumbar sympathectomy was performed. The failure of this operation, from the viewpoint of much influencing blood pressure, was very apparent. Perhaps if one were an optimist it might be said that for a few months after operation the level of tension was lower than heretofore but, on the other hand, the cure of hypertension by this form of treatment was certainly not striking.

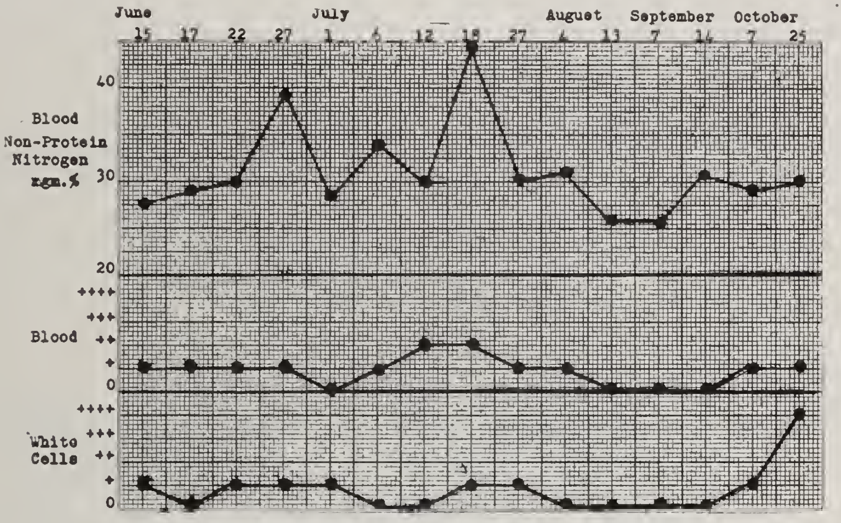


Figure 7. The fluctuating level of the non-protein nitrogen in the blood and the urinary sediment in unilateral pyelonephritis.

Thing dragged on *in statu quo*. About another year elapsed, following sympathectomy, when the entire situation once more was reviewed. My staff constructed various charts and diagrams in trying to assemble, succinctly, all our data. The upshot was a clear demonstration of clinical stupidity. It appeared that Mr. D. had a fixed hypertension, not accompanied by cardiac hypertrophy, and not accompanied by any marked change in renal function as judged by such tests as the phthalein test of blood non-protein nitrogen. Yet when the urinary sediment findings were carefully examined and correlated with the blood nitrogen determinations, it became apparent that something was going on in Mr. D.'s genito-urinary tract; an intermittent disease characterized by transitory showers of blood or pus in the urine and by slight rises in the blood non-protein nitrogen concentration.

Retrograde pyelograms were repeated and Dr. George Levene, our roentgenologist, did his best to compare the size and shape of the kidneys as judged by retrograde pyelograms made a year apart. The evidence was

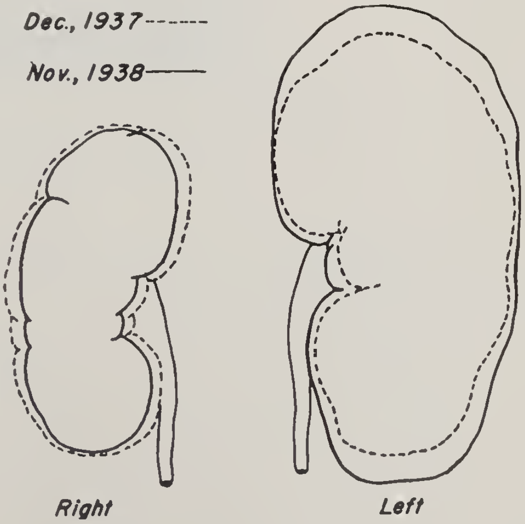


Figure 8. The change in size of the kidneys as revealed by retrograde pyelograms in a case of unilateral pyelonephritis and hypertension. The dotted line represents the kidney outlines in 1937. The solid line represents the kidney outline a year later. Apparently the diseased kidney had diminished in size during this interval and the normal kidney had hypertrophied.

not altogether convincing. It was Dr. Levene's impression that one kidney had diminished a little in size during the year and that the other had increased.

Dr. S. N. Vose, of the department of urologic surgery, agreed to explore the kidney suspected of having grown small. He found a congenitally atrophic kidney due to an anomaly of the renal artery; the kidney weighed only 30 gms. Histologic studies of the organ showed a lesion which was a mixture of pyelitis and chronic nephritis. The effect of removal of this kidney on the blood pressure level was very dramatic. Now, for a year since the operation was performed, the blood pressure level has been normal and there have been no longer any irregularities in blood nitrogen concentration and no longer showers of blood and pus in the urinary sediment. Mr. D. feels greatly improved.

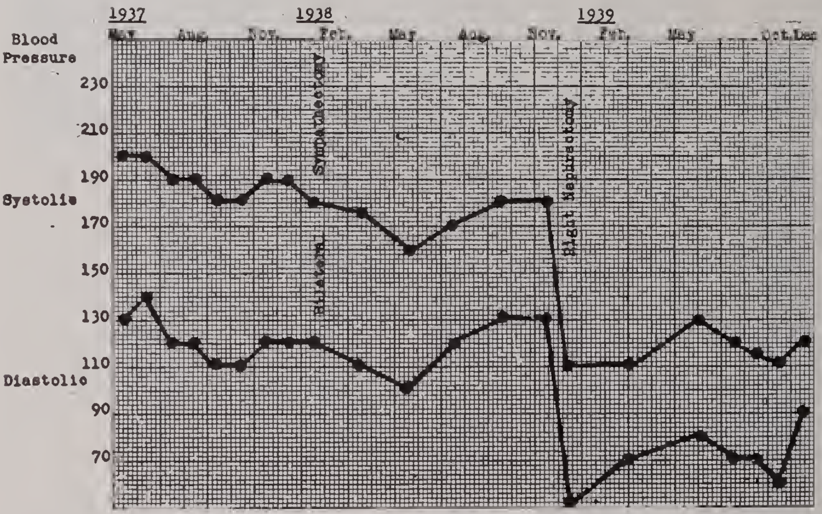


Figure 9. The effect of removal of a unilateral atrophic kidney on the blood pressure level. Sympathectomy had no effect. Removal of the diseased kidney was followed immediately by a fall in blood pressure.

This patient is a very typical Goldblatt man. I have discussed his case in detail, not only because of its interest, but chiefly to point out the difficulties of diagnosis which were encountered. It is by no means easy to recognize a unilateral atrophic renal lesion, for apparently this type of kidney may be badly damaged yet appear to have normal function. It may be very difficult, too, to recognize differences in size between the two kidneys by any diagnostic methods now available. Yet when the correct diagnosis is established, the effect of surgery in treatment may be very striking. This case is important, too, as confirming in man what Dr. Goldblatt has demonstrated experimentally. In the presence of an atrophic kidney which produces hypertension, sympathectomy has no particular effect on the blood pressure, whereas removal of the kidney will do away with the hypertension.

Ever since I heard Dr. C. H. Mayo's case of paroxysmal hypertension cured by removal of a medullary tumor of the adrenal gland, I have been looking for another similar case. So far, I have had no luck. There are methods available by the use of which the diagnosis of such a tumor should be established. It must be a very satisfying experience to recognize such a case and to bring about a cure of hypertension by the removal of so definite a cause.

Certainly, as time goes on, hypertension becomes increasingly interesting. The cause of certain cases of hypertension is known and means are now at hand by which certain people with high blood pressure can be cured. Accurate diagnosis of the underlying etiology is essential for the satisfactory management of such cases. Hypertension may be a benign condition, best left alone and requiring no special therapy. On the other hand, it may be progressive and still of unknown etiology. Every patient with hypertension deserves careful study. Every doctor must keep an unprejudiced and open mind on new methods of treatment as they are developed, maintaining himself as best he can on the tight-rope which separates too much conservatism and too much disbelief from uncritical over-enthusiasm to take up new ideas.

In this discussion I have stressed, deliberately, the importance of medical meetings in the recent development of my own interest in hypertension. I believe that I have learned more from seeing men and from hearing them speak at medical meetings than by any other method. What a man writes is much more impressive and credible—or unimpressive and incredible—after he has been looked at and heard.

A gathering such as this is very important in education. I have yet to attend a conference, such as the Mid-South Postgraduate Assembly, without making new friends, without being stimulated to learn more through what I hear in discussion, and without collecting new ideas. I thank the program committee of this assembly for permitting me to attend the 1940 session.

A Clinical Evaluation of the Use of Sulfanilamide, Neoprontosil, Sulfapyridine and Sulfathiazole in the Treatment of Infections*

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BALTIMORE, MD.

THE RATIONAL use by physicians of the various chemotherapeutic agents now available for the treatment of bacterial infections calls for knowledge which must be based not only upon a sound appreciation of which one of these compounds has proved to be most effective in a given disease, but also upon an understanding of factors concerning the absorption of the compound, its distribution in the body, its excretion from the body and of the possible toxic effects which may arise in the course of the administration of these compounds.

OBSERVATIONS UPON THE ABSORPTION AND EXCRETION OF SULFANILAMIDE, NEOPRONTOSIL, SULFAPYRIDINE AND SULFATHIAZOLE

There can be little doubt that more is known about the fate of sulfanilamide in the human body than of any of the other chemotherapeutic compounds. In Table I is given information regarding the concentration of sulfanilamide noted in the blood of human beings following the administration of a single dose of the drug. It is seen that maximal concentrations of the blood are reached in from 2 to 4 hours, at which time the level of the drug in the blood begins to fall so that at the end of 24 hours there is generally very little sulfanilamide remaining in the blood. Inasmuch as it has been shown that the maximal concentrations of the drug are reached in from 2 to 4 hours after the administration of a single dose, the maintenance of such levels of the drug will depend upon the administration of the drug at 4-hour intervals. Hence, sulfanilamide should be administered whenever possible at intervals of 4 hours.

Sulfanilamide exists in the tissues (with the exception of bone, fat and nervous tissue) in about the same concentration as it does in the blood. It passes over readily into all transudates and exudates in which it exists in concentration of about three-quarters of that noted in the blood. Soon after sulfanilamide is absorbed in the body tissues a certain proportion of it is changed (mainly in the liver) to acetylated or "conjugated" sulfanilamide. This form of drug has no therapeutic activity. Generally from 10 to 20 per cent of the sulfanilamide that is absorbed is converted to the acetylated or inactive form. Hence, in determining the sulfanilamide content of the body fluids, results are expressed in milligram per cent of "free" sulfanilamide (representing the active drug) and in total sulfanilamide which represents the sum of the "free" sulfanilamide plus the acetylated sulfanilamide. For practical purposes determination of the "free" sulfanilamide is all that is necessary for the routine control of therapy.

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*Supported by a grant from the Chemical Foundation, Inc., New York City.

1 E. R. Squibb and Sons—Fellowship in Medicine.

2 Calco Division of The American Cyanamid Company—Fellowship in Medicine.

TABLE I

THE CONCENTRATIONS OF SULFANILAMIDE NOTED IN THE BLOOD OF PATIENTS FOLLOWING SINGLE ORAL DOSES OF THE DRUG*

Patient	Weight and Dose	Concentration of Sulfanilamide — Mgms.% — Hours 2 F	2 T	4 F	4 T	6 F	6 T	8 F	8 T	24 F	24 T
S	69.3 K 6.91 G	16.1	16.6	13.3	14.6	12.0	13.2	10.1	12.3	4.9	7.5
L	79.5 K 6.36 G	9.6	9.6	8.7	9.0	7.9	8.2	6.5	7.2	2.6	4.0
F	61.8 K 4.95 G	8.3	8.7	8.0	8.7	7.1	7.9	5.4	7.4	3.4	3.6

F = Free Sulfanilamide
T = Total Sulfanilamide

*The data for this table was supplied by Dr. E. Kennerly Marshall, Jr.

TABLE II

THE URINARY EXCRETION OF SULFANILAMIDE IN PATIENTS WITH NORMAL RENAL FUNCTION*

Patient	Dose of Drug grams/day	Urinary Excretion by Days, grams 1	2	3	4	Total Excreted grams	Per cent Excreted
No. 1	3.6	3.90	3.75	3.20		10.91	101
No. 2	5.4	4.20	5.10	5.00	5.60	19.90	91
No. 3	5.4	4.55	4.40	4.82		13.77	85

*The data for this table was supplied by Dr. E. Kennerly Marshall, Jr.

In Table II it is shown that when patients are kept upon constant daily doses of sulfanilamide, that the amount of drug excreted almost equals that which is ingested and that no accumulation of the drug takes place in the tissue if kidney function is normal. It should also be noted that in urine the ratio of the acetylated to the free sulfanilamide is considerably higher than it is in the blood and tissues. In some instances over half of the sulfanilamide excreted in the urine exists as the acetylated (inactive) derivative.

Neoprontosil is available in two forms, in tablets for oral administration, and in solution for parenteral administration. In Table III are shown data dealing with the excretion of prontosil and neoprontosil in the urine of patients following the oral administration of the drugs. Prontosil is the original German preparation and has never been marketed in this country. Neoprontosil is well absorbed, as is indicated in this table, by the fact that in the two patients receiving the drug the equivalent of 92 per cent was recovered in the urine of one, and 90 per cent in the urine of the other.

TABLE III

THE EXCRETION OF PRONTOSIL AND NEOPRONTOSIL IN THE URINE OF PATIENTS FOLLOWING THE ORAL ADMINISTRATION OF THESE DRUGS

Patient	Day of Therapy	Total Daily Drug grams	Daily Drug Excretion in Urine grams	Blood Concentration (As sulfanilamide)	
				Free	Total
				Mgms.%	
Gr.	1	2.4	.21		
	2	3.6	2.64	0.9	1.7
	3	3.6	2.54	1.34	2.0
Prontosil	4	3.6	2.72	1.4	1.6
	5		2.41	F.T.	T.
	6		.42		
	7		.07		
	Total Ingested	13.2;	Total Excreted 11.01 or 83%		
Al.	1	3.6	0.2		
	2	5.4	1.08	0.9	1.8
	3	5.4	0.72	1.8	2.5
Prontosil	4	1.8	1.44	1.4	2.2
	5		1.24	F.T.	T.
	6		0.25		
	7		0.09		
	Total Ingested	16.2;	Total Excreted 5.02 or 41%		
Ma.	1	3.6	0.61	1.5	2.6
	2	5.4	4.43	1.9	3.2
	3	1.8	3.13		
Neoprontosil	4		1.51		
	5		.18		
	6		.11		
	Total Ingested	10.8;	Total Excreted 9.97 or 92%		
Sa.	1	3.6	0.93	T.	1.7
	2	1.8	3.2	T.	1.2
Neoprontosil	3		.61		
	4		.11		
	Total Ingested	5.4;	Total Excreted 4.85 or 90%		

Our studies tend to show that very little neoprontosil is excreted as such in the urine following the oral administration of the drug, and that most of it is excreted in the form of sulfanilamide and acetyl sulfanilamide. It is our belief that the reduction of orally administered neoprontosil to sulfanilamide takes place in the gastro-intestinal tract, and that very little of the drug is reduced to sulfanilamide in the tissues of the body. Our reason for believing this is that the blood sera of patients receiving neoprontosil by the oral route rarely show a pink tinge, and their urines are rarely highly colored by the drug. The determination of the amount of neoprontosil excreted in the urine was made by estimating the amount of free and total sulfanilamide in a given specimen of urine both before and after the urine had been subjected to the action of a reducing agent. In our experience, there has been very little difference in these determinations, thus showing that orally administered neoprontosil is excreted almost entirely in the form of sulfanilamide.

It is seen in Table III that the blood concentrations of sulfanilamide in patients receiving neoprontosil are relatively low, but this is not surprising if one considers that upon its breakdown less than one-third of the neoprontosil molecule is converted to sulfanilamide. When this factor is taken into consideration, it is seen that **molecular equivalent** doses of sulfanilamide and neoprontosil produce approximately the same concentrations of the drug in the blood. If neoprontosil is

TABLE IV

BLOOD LEVELS OF SULFAPYRIDINE FOLLOWING SINGLE PERORAL DOSES IN PATIENTS

Subject	Dose g/kilo	Blood Levels in mgms.% Following Administration of Sulfapyridine															
		1		2		4		5		8		24		36		48	
		F	T	F	T	F	T	F	T	F	T	F	T	F	T	F	T
Man	0.05	0.55	0.53			3.26	3.2			2.77	2.6	1.8	1.7	1.1	1.0		
"	0.05	T	T			5.0	4.9			4.1	4.4	2.5		1.6			
"	0.05	0.5	0.6			4.2	4.0			3.0	3.4	3.1	3.1	1.9	1.9		
"	0.05	1.6	1.7			3.4	3.4			3.1	3.2	3.1	3.1			1.3	1.3
"	0.10	0.9	1.1					4.6	6.4	4.7	7.4	1.9	2.9	0.9	2.4	0.4	0.7
Infant	0.1			3.2	3.2	5.6	5.6			5.3	5.4	2.4	2.5			VFT	VFT
"	0.1			4.1	4.1	3.3	3.6			3.2	3.5	2.0	2.3			VFT	VFT

T = Total sulfapyridine (including conjugated fraction)

TABLE V

URINARY EXCRETION OF SULFAPYRIDINE FOLLOWING ADMINISTRATION OF SINGLE AND REPEATED DOSES OF THE COMPOUND

Subject	Dose of Compound	Urine Volume, Excretion in Mgms.%—Days												Total drug excreted g	% of drug excreted
		1			2			3			4				
		U.V.cc.	F	T	U.V.cc.	F	T	U.V.cc.	F	T	U.V.cc.	F	T		
J.C.	Single 0.05g/kilo Total, 3.0	1875	32.6	48.6	2775	23.5	36.6	1875	11.6	25	1660	6.4	13.2	2.37	79
S.B.	Single 0.1 g/kilo Total, 6.8	2850	25	48.8	2600	11.9	45.5	1650	4	22.5		T	T	2.9	51
E.P.	Single 0.1 g/kilo Total, 6.8	1675	50	79	900	31.2	141.5	1000	4	16.8		T	T	2.34	39
J.B.	3.6 g per day	1440	30	155	1520	40.8	137	1350	53.6	166				6.55	60
H.W.	3.6 g per day	1840	62.5	105	1780	47	89.9	2640	40	77				5.52	51
D.J.	3.6 g per day	2130	36.4	107	2240	31.3	95.7	2310	38.1	111				6.97	64

U.V. equal Urine volume
F equal Free sulfapyridine
T equal Total sulfapyridine (includes conjugated fraction).

administered by the parental route much less of it is reduced to sulfanilamide and a great deal more of the drug is excreted as unchanged neoprontosil. Hence, we may say that when neoprontosil is administered by the oral route, it appears to be reduced to sulfanilamide in the gastro-intestinal tract, and its action is therefore dependent mainly upon its sulfanilamide content.

In Table IV are presented data regarding the concentration of sulfapyridine in the blood of the patients following the administration of a single dose of this compound. It is to be noted that the levels of sulfapyridine in the blood rise more slowly, do not reach the same concentrations, and are maintained over a somewhat longer period of time than would be expected had comparable doses of sulfanilamide been given. Sulfapyridine is distributed in the body in about the same manner as sulfanilamide. However, in comparison with sulfanilamide, it is not well absorbed and is frequently conjugated to the acetylated form in a high degree. Inasmuch as the acetylated fraction of the drug has no therapeutic value, this represents a loss of therapeutic efficiency. That portion of the drug which is absorbed, is excreted mainly in the urine, in which it exists as sulfapyridine and acetylated sulfapyridine, with the acetylated fraction constituting a much larger proportion of the total drug excreted than occurs when sulfapyridine is prescribed. Acetylated sulfapyridine is poorly soluble and tends to precipitate out in the urine in crystals which, under certain conditions, may agglomerate to form calculi in the renal tubules, pelves and ureters. In Table V the data dealing with the excretion of sulfapyridine show that following the oral administration of this drug only a little more than half of the drug can be accounted for in the urine. This demonstrates that sulfapyridine is less well absorbed than is sulfanilamide or neoprontosil.

In Table VI figures are presented concerning the blood concentration of sulfathiazole and sulfamethylthiazole following single peroral

TABLE VI

THE BLOOD CONCENTRATIONS OF SULFATHIAZOLE & SULFAMETHYLTHIAZOLE FOLLOWING SINGLE PERORAL DOSES OF THE DRUG

Subject	Drug Dose g/kilo	Blood Concentrations mgms.%, hours following administration of sulfathiazole													
		1		2		4		8		12		24		48	
		F	T	F	T	F	T	F	T	F	T	F	T	F	T
	S.T.														
Adult	0.05	6.3	7.3			6.3	7.3	3.2	5.3	2.2	4.0	F.T.	1.6		
"	0.05	3.3	4.3			8.2	8.6	3.6	5.0	2.5	3.1	F.T.	1.5		
"	0.05	4.8	5.9	5.9	7.2	4.6	5.7	2.3	4.2	T.	1.3	F.T.	F.T.		
	S.T.														
Child	0.05	3.5	4.6			3.0	4.5	1.3	2.2			F.T.	T.		
"	0.05	2.7	3.3			3.1	3.8	1.5	2.1			F.T.	T.		
"	0.05			4.7	4.8	3.3	3.6	0.9	2.1			F.T.	T.		
"	0.05	5.6	6.3			3.4	4.1	1.3	2.1			F.T.	T.		
	SMT														
Adult	0.05	1.4	1.9			2.4	2.7	1.6	2.6	1.7	1.9	1.1	1.2		
"	0.05	T.	0.8			3.5	4.1	2.8	3.5	1.5	2.3	F.T.	0.9		
"	0.05	F.T.	T.			3.3	3.6	3.7	4.1	3.5	3.8	T.	T.		
"	0.05	1.6	2.7			4.3	7.1	2.4	4.8	1.8	4.1	T.	2.6		

S.T. = Sulfathiazole
SMT = Sulfamethylthiazole
F = Free Sulfathiazole or Sulfamethylthiazole
T = Total Sulfathiazole or Sulfamethylthiazole.

doses of the drug. These observations show that the blood levels of sulfathiazole rise quite rapidly and that the drug disappears from the blood a little more rapidly than has been noted for sulfanilamide. With sulfamethylthiazole the blood concentrations of the drug rise somewhat more slowly than is the case with sulfathiazole and the drug disappears from the blood less rapidly than does sulfathiazole. Both of these compounds are acetylated in the blood in about the same proportion as that observed for sulfanilamide.

TABLE VII

THE URINARY EXCRETION OF SULFATHIAZOLE AND SULFAMETHYLTHIAZOLE FOLLOWING THE ADMINISTRATION OF SINGLE AND REPEATED DOSES OF THE DRUG

Subject	Dose of Drug	Urine Volume, Excretion in Mgms.%—Days									Total Drug Excreted g	% of Dose Excreted
		1			2			3				
		U.V.cc.	F	T	U.V.cc.	F	T	U.V.cc.	F	T		
J.T.	S.T. Single 0.05 g/kilo Total, 3.7	760	155	191	435	30	62.5				1.7	46
L.	S.T. Single 0.05 g/kilo Total, 3.7	1550	107	235	980	F.T.	T				3.64	98
P.	S.T. Single 0.05 g/kilo Total, 2.8	1500	71.5	83.7	750	8.5	13.25				2.25	80
W.L.	S.T. Single 0.05 g/kilo Total, 1.7	1640	69	100	1700	F.T.	T				1.64	96
B.W.	S.T. Single 0.05 g/kilo Total, 1.8	1300	65.5	116	2360	T	9.1				1.72	95
W.	S.T. 6..0 per day	980	338	443	910	296	346				8.45	70
C.W.	S.M.T. Single 0.05 g/kilo Total, 2.8	890	18.9	50.5	420	17.3	20.0	Not done			.28	10
M.	S.M.T. Single 0.05 g/kilo Total, 2.6	3340	45.0	69.7	2720	T	T				2.33	90
W.N.	S.M.T. Single 0.05 g/kilo Total, 3.0	3010	68.3	98.0	2780	T	T				2.94	98
O.	S.M.T. Single 0.05 g/kilo Total, 4.0	2580	35.9	64.0	2200	15.3	34.8	1700	13.7	26.6.	2.75	69

S.T. equal Sulfathiazole
S.M.T. equal Sulfamethylthiazole
U.V. equal Urine Volume
F equal Free sulfathiazole or sulfamethylthiazole
T equal Total sulfathiazole or sulfamethylthiazole.

As is shown in Table VII, in the majority of instances sulfathiazole is almost completely excreted in the urine. In two of the four patients who received sulfamethylthiazole, the drug was excreted almost completely in the urine, but in the other two there was a marked delay in the excretion. Both of these patients had normal kidney function, and hence, we must conclude that in these two instances, the poor excretion of the drug was not dependent upon decreased kidney function. Both sulfathiazole and sulfamethylthiazole are conjugated to a definitely lower degree in the urine than is sulfapyridine. However, we have noted crystals of acetyl sulfathiazole in the urine of patients who have been receiving this drug.

SUMMARY

From the data that have just been presented and discussed, it is quite obvious that sulfanilamide, when administered by the oral route, is well absorbed, well distributed throughout the body, and if kidney function is normal, is promptly excreted, and that if adequate concentrations of the drug are to be maintained, the dosage schedule should be on a 4-hour basis. It is our belief that orally administered neoprontosil is probably broken down in the gastro-intestinal tract to sulfanilamide and is primarily absorbed as sulfanilamide. Very little of this drug appears either in the blood or urine in the unaltered form. Hence, it seems fair to us to assume that it derives its major therapeutic action from its sulfanilamide content.

Sulfapyridine is irregularly absorbed and in certain individuals, much of the drug is conjugated to the therapeutically inactive form. It is excreted more slowly than is sulfanilamide or sulfathiazole, and in the urine a high percentage of the excreted drug is generally present in the acetylated form, which is poorly soluble and tends to crystallize out in the urine.

Sulfathiazole is readily absorbed and in most instances, rapidly excreted. It exists in the conjugated form of the tissues in about the same percentage as has been noted for sulfanilamide. In the urine definitely less sulfathiazole is found in the acetylated form than is the case with sulfapyridine. Because of the rapid absorption and excretion of the drug, it has been more difficult to maintain adequate levels with sulfathiazole than with sulfanilamide and somewhat more difficult than with sulfapyridine. Although our datas are incomplete they suggest sulfamethylthiazole is not absorbed nor excreted as rapidly as is sulfathiazole, and in that certain patients the period of the excretion of this drug may be somewhat prolonged. As far as our information goes, it seems to be distributed in the tissues in about the same way as are the other compounds, and insofar as its conjugation to acetyl-sulfamethylthiazole is concerned, it resembles sulfathiazole and sulfapyridine.

At the present time the sodium salt of sulfapyridine is available for therapeutic use. This compound is used in a 5 per cent solution in distilled water and should never be administered except by the **intravenous route.** As this solution passes into the blood, the sodium ion is split off, thus releasing sulfapyridine. Hence, the action of sodium sulfapyridine is exactly that of sulfapyridine.

AN ESTIMATE OF THE COMPARATIVE CLINICAL VALUE OF THE ORAL ADMINISTRATION OF SULFANILAMIDE, NEOPRONTOSIL, SULFAPYRIDINE OR SULFATHIAZOLE IN THE TREATMENT OF INFECTIONS

It is of the greatest importance in the treatment of infection that the correct etiological diagnosis of the disease process be made. Hence, it is always a good plan to have the infection agent identified by bacteriological cultural methods. However, one should never hesitate to employ these chemotherapeutic agents if one feels that upon the basis of clinical diagnosis, the existence of an infection known to respond to one of these agents has been proved. In Table VIII we have attempted to evaluate the comparative clinical value of orally administered sulfanilamide, neoprontosil, sulfapyridine and sulfathiazole in the treatment of certain infections. We realize that while our collected experiences may be quite broad in respect to sulfanilamide, our knowledge of the clinical effects of sulfapyridine is limited mainly to the use of this drug in pneumococcal infections, and that we can speak only in a preliminary fashion about the therapeutic effects of sulfathiazole and sulfamethylthiazole. We also expect that there will be definite disagreements on the part of some physicians concerning our evaluation of these drugs.

In estimating the value of these chemotherapeutic compounds, we have taken the following points into consideration, first, controlled ex-

TABLE VIII

AN ESTIMATE OF THE COMPARATIVE CLINICAL VALUE OF ORALLY ADMINISTERED SULFANILAMIDE, NEOPRONTOSIL, SULFAPYRIDINE OR THE SULFATHIAZOLES IN THE TREATMENT OF INFECTIONS

Disease	Sulfanilamide	Neoprontosil	Sulfapyridine	Sulfathiazoles
HEMOLYTIC STREPTOCOCCAL INFECTIONS				
Tonsillitis	++++	++++	++	
Pharyngitis				
Peritonsillar Abscess	++++		++	
Ludwig's Angina	++++		++	
Acute Sinusitis	++++		++	
Otitis Media	++++	+	++	
Mastoiditis	++++	+	++	
Meningitis	++++	0	++	
Erysipelas	++++	++++	++	
Scarlet Fever	++++		++	
Adenitis	++++	++	++	
Cellulitis	++++		++	
Pneumonia	++++		++	
Empyema	++++		++	
Peritonitis	++++		++	
Puerperal Sepsis	++++		++	
Septicemia	++++		++	
Osteomyelitis	++++		++	
Ulcers	++++	++	++	
Impetigo				
Miscellaneous	++++		++	
VIRIDANS STREPTOCOCCAL INFECTIONS				
Abscess	++		++	
Osteomyelitis	++		++	
Tooth Sockets	++++			
Endocarditis	+		+	
Meningitis	++++		++++	
Septicemia	++++			
NON-HEMOLYTIC STREPTOCOCCAL INFECTIONS				
ANAEROBIC STREPTOCOCCAL INFECTIONS	0		0	
PNEUMOCOCCAL INFECTIONS				
Pneumonia	+	0	++++	++
Meningitis	+	0	++++	
Peritonitis	+		++++	
Otitis Media	++	0	++++	++
Mastoiditis	++	0	++++	
Sinusitis	++	0	++++	
MENINGOCOCCAL INFECTIONS	++++		++	

Brucella Infections	++		++	
Gonococcal Infections				
Male Gonorrhea	++++		++++	
Female Gonorrhea	++++	+	++++	
Vulvo-vaginitis	+		+	
Arthritis	++++		++++	
Endocarditis	++++		++++	
Ophthalmia	++++		++++	
Staphylococcal Infections				
Sepsis	+		++	++++
Pneumonia	+		++++	
Carbuncle	+		++	++++
Meningitis	+		++	
Endocarditis	+			
Osteomyelitis			++	++
E. Coli Tissue Infections	++		++	++
Chanroid	++++		++	
Typhoid Fever	0		0	
Paratyphoid Fever	0		0	
Gas Gangrene	++++		++	
Tularemia	0		0	
Tuberculosis	0		0	
Influenzal Meningitis	+		++	
Friedlander's Infections	+		++++	
Urinary Tract Infections				
E. coli	++++		++	
A. aerogenes	++		++	
B. pyocyaneus	+		+	
Proteus	++++			
Enterococcal	0	0	0	0
Staphylococcal	++		++	++
Group B Hem. Strept.	++		++	
Actinomycosis	++			
Trachoma	++++		++	
Ulcerative Colitis	+	++		
Malaria	+	+	+	
Rocky Mountain Spotted Fever	0			
Trichomonas	0			
Lupus Erythematosus	+			
Phemphigus	+		+	
Virus Diseases				
Lymphogranuloma Venereum	++++		++++	
Common Colds	0	0	0	0
Influenza	0	0	0	0
Poliomyelitis	0		0	
Small Pox	0		0	
Rheumatic Fever	0	0	0	

++++ = Preferred Drug
++ = Active
+ = Slight Activity
0 = Should not be used
Blank = Insufficient Data for Evaluation

perimental data regarding the efficiency of the right drug in the particular type of infection under consideration; second, clinical knowledge concerning the efficiency of the drug in the infection; third, the ease with which the drug is absorbed and excreted; and fourth, the possible toxic manifestation of the drug which may arise in the course of therapy. Using these criteria as a basis, we have outlined in Table VIII our preferences in the use of these drugs.

It seems that sulfanilamide is preferred in all types of hemolytic streptococcal infection with the exception of erysipelas and tonsillitis, in which diseases neoprontosil has been shown to have a very definite beneficial effect. Our selection of sulfanilamide over sulfapyridine, which is listed as being active in these infections, is based primarily upon the greater volume of evidence as to the value of sulfanilamide in hemolytic streptococcal infections, and secondly, upon its ease of administration both as far as the physician and the patients are concerned. However, if sulfanilamide is not available, there is no reason why sulfapyridine should not be prescribed in these infections. In general, as far as the evidence is available, sulfanilamide and sulfapyridine are about equally effective in infections due to the streptococcus viridans. There is insufficient data at hand to evaluate these drugs in non-hemolytic streptococcal infections, while in anaerobic streptococcal infections, neither drug has proved to be of value.

Pneumococcal infections respond best to therapy with sulfapyridine regardless of the type of infection. Our limited experience to date leads us to believe that sulfathiazole is not as effective in the control of pneumococcal infections as is sulfapyridine. Sulfanilamide has some value in pneumococcal infections, but it should not be used unless there are definite reasons why sulfapyridine should not de employed.

In meningococcal infections sulfanilamide is the drug of choice, while in Brucella infections either sulfanilamide or sulfapyridine may be used. From the observations which are now available one can conclude that sulfanilamide and sulfapyridine are equal in therapeutic efficiency in gonococcal infections. Although sufficient data are not at hand, it seems at the moment that sulfathiazole and sulfamethylthiazole will prove superior to sulfapyridine sulfanilamide and neoprontosil in the treatment of staphylococcal infections.The information now available suggests that sulfanilamide, sulfapyridine and sulfathiazole have some activity in tissue infections produced by the bacillus. Sulfanilamide seems to be the drug of choice in chancroid.

Our own experience and that of other observers leads us to believe that these drugs are without value in the treatment of typhoid and paratyphoid fever. Sulfanilamide, on the basis of present information, seems to be the drug which should be employed in the treatment of gas gangrene. Tularemia and tuberculosis do not respond to treatment with these drugs. We would use sulfapyridine in the treatment of infections due to Friedlander's bacillus. In general, sulfanilamide seems to be the preferred drug in the treatment of urinary tract infections, although it may turn out as our experience grows, that sulfathiazole will prove to be beneficial in certain of these infections. None of these drugs seems to be of value in enterococcal infections of the urinary tract. Several patients suffering from actinomycosis have been markedly benefited by treatment with sulfanilamide.

Trachoma, in its early stages, responds both to sulfanilamide and sulfapyridine, with the former being favored as the drug of choice. The reports dealing with the treatment of ulcerative colitis seem to show that the best results have been obtained with neoprontosil. In this disease, in which the etiology is unknown, the basis for the use of this drug has not yet been established. Although sulfanilamide, neoprontosil and sulfapyridine have some activity in malaria, we can see little reason why these drugs should be employed as therapeutic agents in this disease. Sulfanilamide has been of no value in the treatment of Rocky Mountain spotted fever or trichomonas infections, but treatment with this drug has apparently altered the course of lupus erythematosis in certain patients suffering from this disease. In pemphigus vulgaris both sulfanilamide and sulfapyridine have been reported as having therapeutic activity.

Among the diseases which are caused by filterable viruses, the only clear evidence of the therapeutic activity of these drugs is in lymphogranuloma venereum in which disease both sulfanilamide and sulfapyridine seem to be about equally valuable. In other virus diseases, such as the common cold, influenza, poliomyelitis and smallpox, therapy with these drugs has been useless. In rheumatic fever these drugs are not only without curative effect, but their use is definitely contraindicated.

It is our belief that all supplementary methods of treatment should be used in the treating of infections and that special attention should be paid to adequate diet regulations, the vitamin intake, the preservation of a normal electrolyte pattern in the blood and the use of surgical procedures (if necessary) in order that the best results may be obtained.

Dosage To Be Employed

In Tables IX and X are shown the amounts

TABLE IX

THE AMOUNTS OF SULFANILAMIDE NECESSARY TO ESTABLISH THERAPEUTICALLY EFFECTIVE BLOOD LEVELS (10 TO 15 MGMS.%) QUICKLY IN PATIENTS ILL WITH SEVERE HEMOLYTIC STREPTOCOCCAL, MENINGOCOCCAL, GONOCOCCAL, PNEUMOCOCCAL, OR WELCH BACILLARY INFECTIONS

Weight of Patient		Initial Dose Per Os		Maintenance Dose Per Os Q 4 Hours (day and night)		Total Dose First 24 Hrs.		Total Daily Dose Bicarbonate of Soda	
Kilos	Pounds	Grams	Grains	Grams	Grains	Grams per Kilo	Grains per Pound	Grams	Grains
70	150	4.8	80	1.2	20	0.15	1.2	3.6	60
60	125	4.2	70	0.9	15	0.15	1.2	3.0	50
45	100	3.6	60	0.9	15	0.18	1.3	3.0	50
35	75	3.6	60	0.9	15	0.23	1.8	3.0	50
23	50	3.0	50	0.6	10	0.26	2.0	1.8	30
11	25	1.8	30	0.3	5	0.3	2.2	0.9	15

TABLE X

THE AMOUNTS OF SULFANILAMIDE NECESSARY TO ESTABLISH THERAPEUTICALLY EFFECTIVE BLOOD LEVELS (5 TO 10 MGMS.%) IN PATIENTS ILL WITH MILD OR MODERATELY SEVERE INFECTIONS IN WHICH SULFANILAMIDE THERAPY IS INDICATED

Weight of Patient		Calculated Daily Doses				Dose per Os Q 4 Hours (day and night)		Total Daily Dose Bicarbonate of Soda	
Kilos	Pounds	Grams	Grams per Kilo	Grains	Grains per Lb.	Grams	Grains	Grams	Grains
70	150	5.4	.07	90	0.6	0.9	15	3.6	60
60	125	5.4	.09	90	0.7	0.9	15	3.6	60
45	100	5.4	.12	90	0.9	0.9	15	3.6	60
35	75	4.2	.12	70	0.9	1. of 1.2* 5 of 0.6	1 of 20 5 of 10	2.4	40
23	50	3.6	.16	60	1.1	0.6	10	1.8	30
11	25	1.8	.16	30	1.2	0.3	5	1.2	20

* 1 dose of 1.2 grams followed by 5 of 0.6 grams

of sulfanilamide which we believe represent therapeutically effective doses for severe infections due to the streptococcus, meningococcus, gonococcus or Welch bacillus and for mild or moderately severe tissue infections for which sulfanilamide therapy is indicated.

With severe infections it is important to attain an effective level in the blood as soon as possible. We therefore advise that a large initial dose of sulfanilamide be given in order to bring about the desired level of 10 mgms. per cubic centimeter as quickly as possible and that this level be maintained and increased by doses of the drug given at 4-hour intervals both day and night. The maintenance dose should be given until a marked clinical improvement in the condition of the patient is noted. It should then be decreased slowly day by day, but the administration should not be entirely discontinued until the patient is ready to be up and about. If this routine is followed, recurrences of infection will be rare. It is important to remember that the administration of sulfanilamide should be discontinued only under the most exceptional circumstances when there is a severe infection.

In the case of milder tissue infections, amenable to sulfanilamide therapy, levels of sulfanilamide in the blood from 5 to 10 mgms. per hundred cubic centimeters are generally adequate to bring the infection under control. Here again it is important to maintain an even concentration of the drug in the tissues, and because of this a 4-hour schedule of doses is best if circumstances permit its use.

If the patient cannot swallow tablets, if vomiting is present or if there is any reason to believe that the absorption of sulfanilamide from the gastro-intestinal tract might be faulty, the drug can be given by hypodermoclysis. In the preparation of sulfanilamide for parenteral use, a one-sixth molar solution of sodium lactate (18.67 gm. of sodium lactate per liter) and Hartmann's solution are the best solvents, although physiologic solution of sodium chloride can be used. It is best to use a 1 per cent solution of sulfanilamide, and this may be sterilized by boiling for 3 minutes. The calculated daily dose is the same as that for the first day of the oral dose. The initial hypodermoclysis should contain one-half of the calculated first day dose of sulfanilamide. Subsequent hypodermoclyses should be given at 8-hour intervals and should contain one-third of the calculated first day dose of sulfanilamide. The parenteral use of sulfanilamide is, however, a less satisfactory method of administering the drug, and in every instance as soon as the patient is able to take sulfanilamide by mouth at regular intervals its parenteral use should be discontinued.

NEOPRONTOSIL

Neoprontosil, when administered by the oral route, should be given the same doses as have been advised for sulfanilamide. Such doses of neoprontosil will give blood concentrations of sulfanilamide which will be about one-third to one-fourth of those which would be obtained with comparable doses of sulfanilamide. If neoprontosil solution is used, the total daily dose should be calculated as follows: In children weighing 40 pounds, 1.5 cc. per pound of body weight; for patients weighing over 50 pounds, 1 cc. per pound of body weight up to 120 pounds. The total daily dose should be divided in four equal portions and should be given by the parenteral route, preferably intramuscularly or by deep subcutaneous injection at 6-hour intervals.

Adequate standards for the dosage of sulfapyridine have been established only in the course of the treatment of pneumococcal infections. In pneumonia the following dosage should be used: For adults, (by adult is meant any patient over 14 years of age) the initial dose of sulfapyridine is 4 grams (60 grains) this to be followed by 1 gram (15 grains) every 4 hours until the temperature has been normal for 48 hours. Then, 1 gram (15 grains) 4 times a day at 8 in the morning, 12 noon, 6 P.M. and 10 P.M. until resolution is well under way or the patient's temperature has been normal for 4 days. Finally, give 0.5 gram (7½ grains) 4 times a day until the patient is ready to leave his bed. It is frequently a good plan to crush the sulfapyridine tablets and suspend them in water so that they are easier for the patient to take. It is probably a good thing to give ½ of a level teaspoon of bicarbonate of soda (baking soda) 3 times a day.

Children weighing under 40 pounds are given 1 grain of sulfapyridine per pound of body weight as an initial dose. Children over 40 pounds are given 0.7 grains per pound of body weight as an initial dose. After this one-fourth of the initial dose is given 4 times daily for the next 4 days. At the end of this time, the dose is halved and continued until the temperature has been normal for 5 days. In most cases a week of sulfapyridine therapy as outlined above will prevent the occurrence of relapses. Occasionally, particularly in the case of whooping cough, pneumonia, therapy may have to be continued over a longer period. Sulfapyridine may conveniently be given to children by suspending the crushed tablets in milk. Vomiting often may be avoided by sprinkling the drug on jelly spread over bread. Children receiving sulfapyridine should be given one-fourth of a level teaspoon of bicarbonate of soda (baking soda) twice daily.

Fluids should be given freely. If vomiting occurs within one-half hour after the administration of a dose of sulfapyridine, it is highly likely that the effects of that dose have been lost, hence, it is a good plan to repeat the dose. Our experience leads us to believe that it is rarely necessary to discontinue sulfapyridine because of vomiting, as the nausea and vomiting tend to disappear as the administration of the drug is continued. In infections in which the time element is not pressing as it is in pneumonia, it is frequently a better plan to start sulfapyridine in smaller doses and gradually to build up the amount of the drug given per day. If this is done, it is often possible to avoid the vomiting.

In pneumonia patients who are seriously ill we prefer to start treatment by the intravenous injection of solutions of sodium sulfapyridine in order that adequate concentrations of the drug may be quickly obtained. Hence, we generally give an initial dose of the monohydrate sodium salt based upon 0.06 gram per kilogram of body weight and repeat this dose in from 4 to 6 hours. Such a dose will produce a blood concentration of about 5 mgms. per cent of the drug within a short time after it is injected. At the same time we begin peroral medication using 1.0 gram of sulfapyridine every 4 hours. This type of combined peroral and intravenous therapy permits one to obtain and maintain blood of patients who are seriously ill. In our adequate concentrations of the drug in the experience we have rarely had to use more than two intravenous injections of the drug and have found that after the first few hours it is safe to rely upon peroral medication alone.

In preparing sodium sulfapyridine for intravenous use the required amount of the drug is weighed out and dissolved in enough **sterile, distilled** water to make a **5 per cent solution.** Sodium sulfapyridine is unstable to heat and, hence, such solutions cannot be sterilized. However, since a 5 per cent solution of sodium sulfapyridine has a pH of 10.7 to 10.8, it is, in itself, somewhat bactericidal. **The drug is always administered by the intravenous route,** and should not be mixed with any other types of parenteral solutions. Great care must be taken to be sure that the needle is well in the vein before the injection is started in order to avoid getting any of the solution into the tissues. As with alkalinized arsphenamine, the injection of the sodium salt into the tissue results in a painful area of induration which may eventually slough. With the needle in the vein, the solution is injected slowly, 1 minute being required for the injection of 5 cc., thus making the time of injection from 10 to 15 minutes in the average adult.

Sulfathiazole and sulfamethylthiazole are not widely available at the time this paper is being written, because these new compounds have not yet been approved by the Secretary of Agriculture. It is too early to set up standards of dosage for these drugs. Up to the present time we have been employing essentially the same doses of the thiazole derivatives as we have previously described as being satisfactory for sulfapyridine.

The Clinical Toxic Manifestations of Sulfanilamide, Neoprontosil, Sulfapyridine and Sulfathiazole

There can be little doubt but that the fear of toxic reactions which may follow in the course of the administration of sulfanilamide and its derivatives has discouraged many physicians from the use of these drugs. It is our belief at the present time that this fear of toxic manifestations is, in general, unwarranted, especially if physicians will take a few precautions during the course of therapy with sulfanilamide or its derivatives. The first of these precautions is to determine whether or not the patient has had any of these drugs previously and if so whether he had a severe toxic reaction such as drug fever, rash, acute hemolytic anemia, leucopenia, agranulocytosis or hepatitis. If he has suffered from one or more of these toxic reactions it is possible that he will have a second and more severe reaction if the drug is administered again. In such patients one has to proceed with great caution in prescribing these drugs for a second time. In such patients it is best to give a small test dose (1 to 2 grams) and then watch for the appearance of any acute toxic manifestations over a period of 12 hours. If none appears one may continue the drug in small doses, gradually increasing the size of these doses until therapeutic levels have been reached. It is always necessary to follow the patient very closely under these circumstances. It has been noted that if a patient has had a reaction to sulfanilamide, he may or may not have a similar reaction to neoprontosil, sulfapyridine or the sulfathiazoles. These reactions are unpredictable and there is absolutely no method by which one can foretell their appearance.

Patients receiving these drugs should have a hemoglobin determination and a total white blood cell count before therapy is begun and then at intervals of 2 days thereafter. The urine of patients who are receiving sulfapyridine or sulfathiazole should be examined at least every other day for the presence of red blood cells. If possible, patients under treatment should be seen every day and at that time their temperature recorded, the whites of their eyes examined for jaundice, their skin for evidences of rash, and they should be questioned as to whether they have headaches or any special malaise, because headache and malaise are frequently important early symptoms of an imminent toxic reaction.

In Table XI the more common clinical toxic manifestations are listed together with their time of appearance, and what should be done when they make their appearance. We have always been impressed by our experience which shows that if a careful check is kept upon the physical condition of the patient and if a few simple laboratory tests are performed, one need have very little fear of the toxic manifestations which inevitably arise in certain patients in the course of therapy with these drugs, because the toxic manifestations will be noted in their inception, the drug can be stopped and little harm will come to the patient.

TABLE XI

THE CLINICAL TOXIC MANIFESTATIONS OF SULFANILAMIDE, NEOPRONTOSIL, SULFAPYRIDINE OR THE SULFATHIAZOLES WITH THEIR TIME OF APPEARANCE IN THE COURSE OF THERAPY

Toxic Manifestation	Sulfanilamide	Neoprontosil	Sulfapyridine	Sulfathiazole
Nausea and Vomiting	Uncommon occurs early	Rare	Very frequent occurs early	Rare
Dizziness	Common occurs early	Rare	Common occurs early	Uncommon
Psychoses*	Rare occurs early	Not reported	Reported	Not reported as yet
Neuritis*	Rare generally early	Not reported	Not reported	Not reported as yet
Cyanosis	Very common occurs early and late	Rare	Faint, common, occurs early	Uncommon, occurs early
Acidosis	Common if soda is not given, occurs at any time	Not reported	Not reported	Not reported as yet
Fever*	Common, generally 5th to 9th day, may occur from 1st to 21st day	Rare	Uncommon, generally 5th to 9th day, may occur from 1st to 30th day	Common, 5th to 9th day
Rash*	Common, may take almost any form, generally 5th to 9th day, may occur from 1st to 21st day	Rare	Not very common, generally 5th to 9th day. May occur from 1st to 30th day	Very common, generally 5th to 9th day
Hepatitis**	Rare Early or late	Not reported	Rare Early or late	Not reported as yet

Hematuria**	Not reported	Not reported	Common, generally 1st to 10th day	Common, 1st to 10th day
Anuria with Azotemia**	Not reported	Not reported	Not uncommon, 2nd to 14th day. Blood pressure normal. Fundi normal	Reported 7th day
Acute leukopenia** with Granulocytopenia	Not uncommon, 1st to 10th day	Rare	Common, especially in children. 1st to 10th day	Reported as occurring 3rd to 10th day
Agranulocytic Angina **	Uncommon, generally between 17th and 25th day. May occur from 14th to 40th day	Rare	Uncommon, generally between 17th and 25th day. May occur from 14th to 40th day	Not reported as yet
Hyperleukocytosis*	In presence of acute hemolytic anemia	Not reported	In presence of acute hemolytic anemia	Not reported as yet
Mild Hemolytic Anemia	Very common early and late	Rare	Common, early and late	Not reported as yet
Acute Hemolytic Anemia	Common, especially in negroes—generally 1st to 5th day	Rare	Uncommon, generally 1st to 5th day	Not reported as yet
Purpura Hemorrhagia	Rare	Not reported	Rare	Not reported as yet
Injection of Sclerae* and Conjunctivae	Not reported	Not reported	Not reported	Common, especially in conjunction with rash & fever. 5th to 9th day
Visual Disturbances	Rare	Not reported	Rare	Not reported as yet
Jaundice**	With hepatitis or acute hemolytic anemia	Not reported	With hepatitis or acute hemolytic anemia	Not reported as yet
Painful Joints*	Reported	Not reported	Not reported	Reported with rash etc.
Stomatitis	Rare	Not reported	Not reported	Not reported
Gastro-intestinal Tract	Bleeding rare, diarrhoea uncommon	Not reported	Bleeding reported	Not reported

* Best to stop drug and force fluids
** Imperative to stop drug and force fluids.

The Automaticity of the Heart Beat*

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I AM AUTOMATIC may be said of the living human body, and this automaticity may be said to extend from the romantic days of the mother and father to the progeny. Of this automaticity, one of the most interesting and romantic problems of all physiology has been the study of the production, elaboration and contraction of the rhythmic heart beat. The automaticity of the heart beat may be divided into three phases:

1. INNER STIMULUS, or the building up and production of the stimulus.

2. ELABORATION, the elaboration or passage of the stimulus through the specialized tissues of the heart itself (conducting system).

3. CONTRACTION, contraction of the heart muscle or the parenchyma, in response to the inner stimulus, transmitted or conducted through the specialized conducting system.

Many investigators[1] have shown that the heart of either a cold or warm blooded animal is able to maintain strong rhythmical beats for a long time, after all nervous, vascular and supportive tissues between the heart and the rest of the animal have been severed, provided the heart is perfused with a liquid containing the inorganic salts of sodium, potassium and calcium in the normal proportion as contained in the blood and tissues of the animal body being perfused.

In 1885 Ringer[2] demonstrated that if an excised heart is perfused with an aqueous solution of the salts, sodium, calcium and potassium in the contraction in which these salts are found in the animal's blood, a rhythmical beat may be obtained for a long time.

In 1897 Englemann[3], studying the automaticity of the venous end of the heart, believed that a stimulating substance accumulated during the resting period of the heart metabolism, or diastolic period of the heart beat produces the inner stimulus; and the duration of the pause (diastole) is the reciprocal of the rate of the production of this stimulating substance.

In 1902 Loeb[4] stated, he believed that various ions exert their influence by entering the cells and uniting with certain cellular constituents of the cells acting as the principal agent initiating automaticity. The sodium ion enters the cell and displaces a small portion of the calcium ion from its intracellular compound and by this displacement excites the muscle to contract. If this displacement proceeds too far, the sodium ion acts as an irritant to the tissues, and extra systoles possibly are produced in this way.

In 1930 Warburg[5] did further work on the sodium ion. He also agreed in the so-called toxic action of sodium chloride upon certain cells by increasing oxidation and further, that this increased oxidation is deterred when calcium salts are added to the perfused solution.

In 1903 Langerdorf[6] stated as a theory, that the inner stimulus controlling the automaticity of the heart beat, arises from cleavage processes within the heart tissues, probably within the ganglionic cells about the pacemaker (sino-auricular node), which is located just at the entrance of the superior venacava. He believed that this inner stimulus originates through the catabolism of the cells (the breaking down of the larger molecules to the smaller molecules, thus producing the cleavage products); thus is liberated certain elements which act upon the ganglionic cells, and that the anabolic process (building up from smaller to larger molecules) diminishes the frequency of this inner stimulus.

Gaskell[7, 8] had many years previously elucidated such a theory, and the work of Langerdork was somewhat confirmatory of the theory advanced by Gaskell. Langerdorf was of the opinion that the burden of calling out the rhythmical impulse or rhythmic heart beat depended upon the organic constituents of the heart's tissues, and that the inorganic substances, sodium, potassium and calcium acted in a minor roll by placing the hearts musculature in the proper state for the action of the inner stimulus, the organic constituents, the main roll of actually producing the inner stimulus.

Howell[9, 10, 11, 12] in 1901 and 1906 described the theory in which an antagonism between sodium and calcium present in balanced ratio acts as the exciting agent in the automaticity of the heart beat. He denied the poisoning action of sodium. Martin in 1904 and 1906 stated as his belief that carbon dioxide acts as an internal stimulus to the heart beat.

In 1912 and 1913 Mines[13,] of Canada, described a very interesting physio-chemical theory to account for the origin of the heart beat, in that the contractile mechanism responds to transitory increase of hydrogen ions, and he classed the calcium ions as the combining ions capable of entering into chemical union with the cell membrane itself, thus exerting an influence upon the permeability of the cell itself. The sodium and potassium ions, he classed as nomadic ions because of their supposed ability to penetrate the cell membrane, thus exerting an influence upon the electrical charge of the cell. The theory is the electrolyte theory and the action of electrolytes.

In 1913 Clark[14, 15] advanced a theory that lipoids become essential constituents of the cell surfaces. The function of a calcium is to vary the colloidal state of this lipoid containing cell surface (colloidal theory).

In 1921 Zwaardemaker[16] believed the cause of initiating the spontaneous rhythmic heart beat to be the ion of potassium, stating that sodium, calcium and potassium are essential to maintaining the rhythmical heart beat, that the radiation emanating from potassium acts directly upon the heart muscle, stimulating it to its rhythmical contraction. In 1929 he revised his work and modified it to relate to the heart hormone theory, in that there was a substance (hormone) manufactured by the sketelal muscle and this hormone was changed by radio activity of potassium to automatin, which imparts to the heart muscle the automaticity of the rhythmic heart beat.

In 1928 Lillie[71] gave as his theory that the cause of the automaticity of the heart beat was due to an alternation between the states of activity and passivity of the tissues, perhaps of the nature of an oxidation process.

In 1924, 1928 and 1929 Demoor[18, 19, 20] presented a somewhat similar theory in that the myocardium is capable of originating contractions, but these contractions are irregular under the influence of a substance elaborated by the nodal tissues (sino-auricular node). The myocardium assumes regular contractions. He showed that if the right auricle of a rabbit is excised and dropped into a dish of Ringer-Locke solution it soon assumed regular rhythm, while the left auricle produces only irregular or periodic jerky beats in this solution. If now the solution in which the right auricle was placed for a while is poured over into the solution in which the left auricle was immersed, the left auricle then assumed regular rhythmical beats, thus demonstrating some substance was produced by the nodal tissues contained in the right auricle which changed the irregular beats of the left auricle to the regular rhythmical contractions.

In 1930 McDonalds[21] (U. of Ark.) in a series of very graphic experiments confirmed this observation in seventy per cent of their experiments.

In 1931 Webb[22] in his study of adenosine and certain related substances believed that some organic substance was produced by the heart tissues which built up the inner stimulus to cause the rhythmical heart beat; that adenosine[23] brought about a marked increase in the flow of perfused rabbit's heart and caused a transitory heart block. Adenosine is the substance Wolffe[24] believed to be the active constituent of desympatone (Tissue Extract No. 568) which has been shown to have vaso-dilatation and hypotensive action by Vaquez, Gley and Kisthinosis.

In 1932 McDonalds[25] (U. of Ark.) in the American Heart Journal summarized the problem as follows:

"That sodium is perhaps most intimately concerned with the actual release of the internal stimulus, calcium with strength of contraction, and potassium with the counter-acting of the irritating antagonism between sodium and calcium."

In 1910 Pembrey[26], by the use of the Stannius ligature, was able to show that the rhythm of each isolated pulsating chamber is different. The ligature placed at the junction of the sinus and auricle of the frog's heart would bring to a standstill the parts below the ligature, i.e., auricle and ventricle, while the sinus continues to beat rhythmically. While if a second ligature is applied in the auricular-ventricular sulcus, by its irritation will start contractions in both auricles and ventricles. The rhythm of each isolated pulsating chamber is different.

In considering[27] the strength of the contraction we must consider "tone." There is perhaps no more hypothetical description used today than that of tone. What do we understand by the word tone? It is difficult to arrive at an exact definition of tone, yet its meaning is quite real, and the part played by tone in the function of the heart muscles and its rhythmical beat is very definite. Perhaps the nearest equivalent is the word elasticity, by which we mean that all bodies animate and inaminate in greater or lesser degree show a property whereby they resist change of form or volume, whether by compression or extension, and tend, upon removal of the disturbing force to return to their previous form and volume. Tone is essentially related to metabolism, i.e. chemical activity, and we assume with reasonable assurity that the normal tone of muscle fiber corresponds to the normal plane and metabolism of health. To this is given the ringing musical tone heard in the muscular contraction of the rhythmic heart beat.

In the mechanism[28] of contraction, Claude Bernard was the first to isolate glycogen. That muscle contains glycogen in considerable quantities was discovered shortly after Bernard's isolation of glycogen. The localization of glycogen in the muscle is in the form of granules of sarcoplasm. Through effect of adrenalin of the suprarenal gland this is changed into glucose.

During contraction of the muscle carbohydrates disappear, heat is liberated, carbon dioxide is given off and lactic acid is reduced. This lactic acid is again converted into glycogen and the process repeated. Oxygen in the presence of the muscle destroys lactic acid or causes it to recombine in the glycogen. The machinery of this contraction is the contractile engine and the muscles are the cylinders of the body and this substance apparently exists as a concentrated gel. This gel has the peculiar property of swelling greatly and rapidly in the presence of lactic acid and when the nerve impulse sweeps over the muscle, it causes in some unknown way combustion of the carbohydrates and thus produces the lactic acid and heat is liberated and work is done at this time.

It is apparent that the inner stimulus arises through an organic substance, probably in the nature of a hormone, and the inorganic substances sodium, potassium and calcium act as innervating substance.

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Dedicatory Address*

By RUDOLPH MATAS, M.D.
NEW ORLEANS, LA.

Mr. Chairman, Mrs. Beacham, Ladies and Gentlemen:-

I esteem it a distinguished compliment and happy privilege to have been invited to participate in the dedication of the Beacham Hospital and Clinic and to join with the founders, the medical profession and the good people of Magnolia and their guests, in the celebration of so notable, I should say, so epochal an event, in the history of this community.

When I was invited by my dear friends, the Beachams, to be their guest on this occasion, I at first demurred, feeling with Mark Twain that, having long past the scriptural age of limitations, I was a "time expired man" to use Kipling's military phrase, "who has served his time—well or less well,—and for whom the strenuous life is over. You are become an honorary member of the Republic"; he says, "You are emancipated; compulsions are not for you, nor any bugle calls, but 'lights out'."

Delightful and charming as the prospect of the Utopia of perfect rest that is depicted by our genial humorist,—maybe, I am not yet reconciled to a life of innocuous disuetude, and still hear with a quiver the old gong call of duty which for nearly half a century made me impatient to enter the operating clinic and the class room. Despite this tendency to "chafe without harness" I would have declined Aubrey Beacham's invitation as a protective measure—as I have so many others,—but Aubrey's invitation has brought with it so many memories of my teaching days that I have been sensitized and made so allergic that I have not been able to resist, and I am now here, after "I would n'er consent," consenting and contented.

Some of the circumstances which have appealed most magnetically in drawing me here have been, among others, the fact that the father of the Beacham clan, Dr. Woodard Beacham, graduated at Tulane in 1899, five years after my election to the Professorship of Surgery, and was one of the hundred and more medically hungry students who trooped daily into my clinics and class rooms to be fed with the surgical "hard tack" that it was my duty to provide for them. This was 40 years ago and, thus far, I am still to hear that any of my faithful followers succumbed to indigestion. Judging by Dr. Woodard's example, I rather suspect that the tough biscuits that I handed over to him in those fasting days made the buttered hot rolls that followed in his successful years of practice, the more enjoyable.

The year 1899 was memorable in the chronology of the college for the addition of a fourth year of study to the medical curriculum, and by the creation of new laboratories and hospital clinics to meet the many requirements of the specialties. More important, however, in its historical significance for the medical profession and the people of the South, was the fact that in the summer of 1899 the heroic Yellow Fever Commission of the United States Army, headed by Walter Reed, landed in Havana and began the epochal researches which were destined to deliver our Southern country and the Western Hemisphere from the merciless tyranny which Yellow Jack, "the ogre of the Tropics," had exercised for more than a century over our suffering people.

In connection with the Senior Beacham's graduation in medicine it is interesting that long before him other ancestors had served faithfully and victoriously in the army of Aesculapius, and after him four of his five gallant sons came to tie the fraternal knots that bind us Tulanians indissolubly together and make us glory in the achievements of our fellows.

Judging by this long line of medical ancestry, apart from their outstanding individuality, we would class the Beacham M.D.'s as born doctors who, having inherited the example of their father and followed in his footsteps, have founded a medical dynasty that honors the army of health and healing by their unswerving fidelity to its best traditions.†

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*Address delivered at the dedication of the Beacham Memorial Hospital at Magnolia, Miss., on Sunday, December 17, 1939, 2:30 P.M.

The people of Magnolia, Pike and adjoining counties are to be congratulated, not only on the inauguration of the first well equipped modern, up-to-date hospital and clinic in their midst, but on the unusually qualified and responsible character of the medical personnel who are to be in charge of its management.

The establishment of this foundation in Magnolia, and the investment of the capital it represents is also significant of the confidence and conviction with which the founders viewed the present outlook and future development of Magnolia and of this section of the state. It also reflects their trust in the intelligence and progressiveness of the community, as well as of the sympathetic and material support of the medical profession, especially of Pike County, upon whom the success of their enterprise so essentially depends.

To the people of Magnolia and the surrounding country the establishment of a well equipped medical center in the heart of a large rural district, far removed from the great metropolitan hospitals of the nearest large cities, means an enormous improvement on pre-existing conditions. It establishes a sort of medical independence of the sick and disabled members of the population from dependency on the city hospitals, at least in accidents and medical agencies.

The hospital comes to the aid of the medical practitioners living in isolated areas who have had to cope, at an enormous disadvantage, singlehanded, with all the manifold manifestations of disease and injury. To the people in the town as well as the farmer and laborer in the field,the establishment of a hospital of this communal character means, not only a hospital or a human repair shop where the sufferer can find prompt and efficient aid in accidents and emergencies without the hardship of travel, the burden of expense or the perils of delay to distant hospitals, but a health center or medical lighthouse which is fittingly provided with all the modern resources for the diagnosis, prevention and treatment of disease. It is a place where the menace of gradual, insidious disease may be recognized and its progress arrested; where operations can be performed skillfully and in time to thwart impending danger; a place where the individual citizen or the community collectively can benefit in sickness by the constant presence, supervision and observation of a competent resident doctor and nurse.

In providing an organization of this character as an abode for the efficient and scientific care of the sick and injured, the hospital becomes an asset of incalculable benefit to the community by adding enormously to the chances of recovery and restoration of the broken family circle to its original integrity, thereby contributing immeasurably to the happiness and safety of the community.

Side by side with the church, the schoolhouse and the court-building stands the hospital with its great, even greater, opportunity for service. Service to suffering humanity is a religion that knows no creed. It is founded upon no dogma, but chooses for its ideal the golden rule which, in the practice of medicine and in the hospitalization of the ill and disabled, follows in the footsteps and precepts of the Great Physician.

There is as much difference between hospitals as there is between individuals, as there is between cathedrals and missions, between hotels and camps, between great ocean liners and crude rafts,—but what makes the greatest difference between hospitals as between men is not the pure material structure in which they live or pursue their missions, whether this be a palace or a hut, but in the intelligence and above all the moral character of those who control the institution.

You, ladies and gentlemen, who represent the backbone, the intelligence and the progressive spirit of this community, are particularly fortunate to be not only the recipients and beneficiaries of this splendid addition to your communal welfare but in the assurance that those who are to govern the destinies of this life-saving station are worthy of your fullest trust and confidence. This is an institution that all creeds, all business interests, all rural neighborhoods and all reputable doctors can utilize. Its privileges can be shared by all, and its benefits and mercies come to you as did the charity, the tenderness and the sympathy of the Great Samaritan.

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†See appendix for genealogical notes on the Beacham family.

It is estimated that the number of cases of sickness in this country in a year is fourteen and a half million, costing the nation a billion and more dollars. It is astounding to think that there are 225 million days of sickness per year in the United States. If it were possible to reduce the amount of sickness by 25 per cent, the total economic gain yearly would be worth a quarter of a billion dollars. How can one estimate the wealth in anguish relieved and death postponed? Prevention runs as a thread of gold through the fabric of medicine. Every time we prevent illness we not only preserve that one individual as a productive force, but also one or two persons who would be required otherwise to care for him. The military maxim that it is better to wound an enemy than to kill him is founded upon this principle.

The growth of hospitals founded upon necessity and perpetuated by service has been phenomenal. In the last fifty years the hospitals in this country have increased from 149 to 6,166 registered by the American Medical Association in 1938, having 1,218,127 beds and bassinets; to which 9,421,075 patients were admitted during the year*. It is estimated in a survey of the American College of Surgeons for 1938 that 26 per cent of our hospitals have a bed capacity of 100 beds or over; 27 per cent, a bed capacity of 50 to 100 beds; and 40 per cent, a bed capacity of 25 to 50 beds. Thus 47 per cent, or almost half the number of the hospitals in the United States and Canada are in the 25 to 50 bed class, of which the Beacham Hospital is a type.

Mississippi is essentially an agricultural state with a population in 1937 of about 2,016,000 inhabitants. Its urban population has gradually grown to 15 per cent, but it is still retaining an immense preponderance of 85 per cent in the rural districts. Up to last year, hospital facilities were provided by ten state hospitals of the 50- to 100-bed type, and 64 others including sanatoria, which have sprung up in recent years as the result of private or community enterprise and are chiefly of the twenty-five- to fifty-bed class. In a map of the state, published in the Journal of the American Medical Association, June 3, 1939, 100 hospitals registered by the American Medical Association are plotted and an additional 16 small unclassified institutions†; but they are unevenly distributed, some counties containing the larger urban centers showing as many as eight or nine hospitals, while in thirty-two others there is no sign of hospital accommodation or relief.

It would seem also that of the total 116 hospitals indicated in the map, only 54, in addition to the five charity hospitals, are recognized as entitled to relief by the State Hospital Commission.

Without attempting to clear this discrepancy, it would appear that there is much room for hospital relief in rural Mississippi, if we are to judge by thirty-two counties that are entirely lacking in hospital accomodation or organized centers of medical relief.

About 50 years ago scarcely any rural hospitals existed, and the doctors in the country had to fight their battles, often heroic battles, unaided by their help; now they are budding forth with a fertility that is the best proof of their necessity, and we may be assured that if hospitals are built at the same pace that we have seen them appear in the last few years, every county will be able to claim its own hospital, whether private or public in a manner that will meet the demands of the public for better medical service, just as the new Beacham Hospital will do.

The adequate hospitalization of the sick is a big problem today. On an average, one out of ten persons in the United States and Canada goes into hospitals for treatment annually. Last year almost 12 millions went through these hospitals. The outlay for the erection and maintenance was approximately one billion dollars.

A billion dollars is almost inconceivable. A billion minutes represent all of the time that has transpired from the Crucifixion to the present day. We cannot realize so vast a sum. It has been computed that a billion soldiers placed four abreast and marching according to army regulations would extend six times around the earth at the equator, and yet this is the sum that the people of the United States and Canada expended last year for the better care and preservation of their lives and health through the superior advantages of a modern hospital, conducted and equipped in accordance with American ideals of safety, comfort and efficiency.

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*Hospital Service in the United States, 1939. The 1938 Census of Hospitals. Hospital Number of the Journal of the American Medical Association, March 11, 1939, vol. 112, No. 10, p. 909.

†Hospitals and Medical Care in Mississippi, prepared by the Council on Medical Education and Hospitals of the A. M. A., Jour. A. M. A., June 3, 1939, vol. 112, pp. 2317-2332.

And what is the reason for this extraordinary development and colossal evolution of the hospital idea as we see it expanding in our United States, where the program of hospitalization has no parallel in history or in the experience of any other civilized country in the world? In fact America, and I mean the United States, leads and is leading in the hospitalization of the sick and injured as it has in the pursuit of so many other humanitarian ideals. The care of the sick and disabled in hospitals is not merely one of the finest gestures of American civilization and philanthropy, but the outcome of necessity, that has come to an enlightened people in the effort to adjust themselves to the progress of the medical sciences. The system of organization and practice under which the medical profession has lived in fair comfort and efficiency is rapidly disintegrating and is yielding to the pressure of new and unforeseen and undreamt discoveries in medical science for which it was scarcely prepared 50 years ago and which are now creating new methods of medical service. The old time-honored general practitioner who still remains a hero of our profession and who, up to the last quarter of a century, represented the unit of medical service in this country, is not longer able to carry single-handed the great load of responsibility that is being heaped upon him by the new and rapidly accumulating discoveries of modern medicine and the collateral sciences. No one brain can now hold all the knowledge that is required to discharge adequately the duties of a general medical practice that amply sufficed even thirty years ago. Now the work that was well performed by one man requires three, five or more experts to do it well. At present, the general practitioner or family physician can scarcely move without calling to his assistance the radiologist, the pathologist, the biochemist, the surgeon, the internist, the pediatrician, the urologist and so many other collaborators, without counting the old established specialties of dentistry, the eye, ear, nose and throat,—all of which tend to convert the family physician of the present day into a sort of broker or agent for his parents in search of medical experts and their utilities.

Granting fully and freely that the old and sound clinical methods of investigation which depend upon the trained use of the eye, ear, the touch and other senses that convey to the intelligence the essential facts upon which the interpretation and judgment of the practitioner are based,—still remain and will always remain, the foundation for our methods of investigating disease,—it is none the less a fact which cannot be denied, that the methods of precision which the physical and biochemical sciences have given to medicine in the last few decades, have not only given greater precision and clarity to our diagnostic and prognostic acumen, but have actually revolutionized the methods of medical practice. At any rate, the general public has become fully awake to these improvements and no longer waits for the practitioner to apply them, but actually demands them.

This means that the economic and professional status of the general practitioner has suffered grievously. It means that the division of labor in general practice has begun, and that the general practitioner is rapidly losing his identity as the pivotal unit of medical organization and of medical education. The general practitioner himself, finding that he can no longer practice without calling a number of collaborators to his assistance, is rapidly abandoning his old functions and drifting into surgery, or aligning himself with the specialties and with other composite groups in clinics and hospitals, in order to maintain an existence.

On the other hand, the public, aware that the best service procurable can be obtained in hospitals where all the modern resources for the investigation and treatment of disease are available, and, where this service can be procured far more economically than by calling individually on the family physician and his retinue of collaborators and consultants, is independently drifting from the family or home practice to the hospitals and group clinics.

In addition to this awkward situation of the general practitioner, the standardization of the hospitals of the country through the annual surveys of the American College of Surgeons and the American Medical Association, which not only deny their certificate of approval to all institutions which fail to comply with their minimum requirements, but critically grade them into classes according to their merits or deficiencies. These published hospital surveys are publicly recognized as authoritative and trustworthy, as standards for the measurement of the efficiency of hospitals, and, in consequence, these surveys are tending steadily to elevate the character and greater efficiency of service in these institutions.

Standardizing hospitals through the instrumentality of these annual surveys by competent and unprejudiced experts, and the publicity given to their report, is increasing the confidence of the public in hospitals as the proper place for the sick, and is encouraging, to an extraordinary degree, the growing tendency towards their utilization by all classes of the population. And why should not this be so? With increasing methods and expense of modern scientific investigation (which is only available in well equipped hospital centers); with the greater nursing advantages and the constant presence of competent medical help always at hand,—the home is being recognized as less and less suitable for the sick, and the custom is growing and will grow for the patients going to the doctors instead of the doctors going to the patients.

After all, as Lord Dawson, the eminent English physician has said, "If you want to be educated you go to school or college; if you want to see a show you go to the theatre; if you want to settle a judicial dispute, you go to court,—why then, if you want to be restored to health should you not go to the hospital? Why is a room in a dwelling always imperfectly provided for sickness made to suffice? Why not the best?"

In the rural districts these centers of health and healing are now multiplying at a rapid rate all over the country and the time will come when all the requirements of serious illness will be met in this way. Good roads, the telephone, the auto car, the radio, the auto-ambulance and probably the aeroplane will do the rest.

In this way again, the problem of the medical depopulation of the rural districts, that is, the abandonment of country practice for city practice, which is now so painfully apparent throughout the country, and which has been the subject of so much comment and discussion in the medical and lay press in recent years, will be met in a manner far more satisfying to the modern practitioner and to the community, than ever in the past.

Mississippi medical students are awarded Commonwealth scholarships to Tulane University, awarding $1,000 per annum for each student for medical education. One condition of the scholarships is that recipients agree to return to Mississippi after graduation and practice medicine in a rural community at least three years. Though competent medical and surgical services are available in most Mississippi towns and cities, rural sections generally are deficient in these services. Commonwealth scholarships are offered to help meet this need in co-operation with the Mississippi State Board of Health and Tulane University.

With a central county or communal hospital well staffed and equipped to meet the requirements of every rural community or country district, the family physician will be able to exercise his functions in a manner far more satisfying and becoming to his scientific tastes and training. It is precisely under these circumstances that a new type of country doctor is developing who, in continuing his personal relations with the patient, and in this way retaining the best and most honored of his privileges as the friend and confidential advisor of the family,—will be able to care for the individual members of his flock in surroundings that will permit him to investigate and treat their ailments with all the resources that the co-operative methods of diagnosis and therapeutics place at his hand in the hospitals. The young graduate, fresh from school, and highly trained in modern scientific methods will be happier and far better satisfied to live in rural districts than hitherto, as he will find in such communal centers as this Beacham Hospital all the facilities for the practice of medicine that he has been taught by his scientific teachers in the modern curriculum of the schools. In addition, he will have far better opportunities for that mental culture and interchange of thought that is so necessary to all young, ambitious and aspiring minds, through his association with a group of specially trained colleagues and collaborators, who will sympathize with his training and his methods.

The patients will be the greatest beneficiaries of the new order of things since, by providing a properly equipped hospital center in every community or rural district, it will be able to attract and retain the best type of practitioners who at present find the conditions for the practice of medicine in the country districts so thoroughly unattractive to their modern tastes that many will only engage in country practice when driven to it through sheer necessity or by the inducement of particularly favorable offers for pecuniary compensation; or again, as a provisional stepping stone or make shift while waiting for something better.

Yes, it is incompatibility, or rather uncongeniality of the habits acquired in the modern scientific schools and hospitals with the conditions of country practice that leads so many to seek and accept salaried positions in the government and civil institutions with infinitely less prospect of advancement and usefulness, than face the handicaps of practice in the rural districts, as these were traditionally known in the past. It is this situation that has led the ambitious, earnest and studious men who accept the alternative of country practice, to create for themselves and their communities the hospital conditions that are so congenial and necessary to their training and their mode of thought. It is also the intelligent appreciation by the public of the changed conditions of medical practice that is helping the enterprising doctor to build the thousands of community and private hospitals that are springing up everywhere throughout the land, and bringing back to the countryside a new type of general practitioner who combines with the family ties and affections of his predecessors a new measure of efficiency and a character of service that was unknown and unthought of in the palmiest days of that beloved and honored figure of the past, the "Country Doctor" of the saddle bag and horse and buggy days.

Now that I have spoken so much, and, I fear, too long on the relations of modern hospitals to the welfare of the community, and particularly their influence in revolutionizing medical practice in the rural districts, I will not detain you further than to insist that the efficiency and service of a hospital, no matter of what type or class it may be, depends upon the kind and character of service that it renders; upon its personality, that is, the personnel that is at the head of it; upon the sympathy and support of the leaders of the medical profession, and upon the intelligent and material co-operation of the entire community which it serves.

Ladies and gentlemen, we have assembled here today to inaugurate the first hospital established in this enlightened, prosperous, progressive and most hygienic little city of Magnolia, in the very heart and center of a large industrious and productive agricultural territory.

This, then, is the Beacham Hospital,—a modest, unpretentious but solid structure, thoroughly manned and equipped for the scientific accomplishment of its great salutary and humanitarian mission.

It is to stand in your midst as a fountain of Health, yes, of Health, a most priceless possession which should be preserved and strengthened, treasured and cherished. It will stand as a bulwark of defense against the aggressions of disease, and the disabilities of accident and injury; it will serve as a center for the conservation of life and the relief of human suffering.

Its future rests largely in your hands. Like a young fruit-bearing tree, its growth and its yield will depend upon the soil in which it is planted and the care that is given to protect it in its tender youth and development. I am confident that the Beacham Hospital will prosper and yield a rich harvest that will reward the good people of Magnolia and Pike County for the fostering care and support they will give it. I am sure they have made no mistake in the confidence and trust they have reposed upon the founders of this generous enterprise. Speaking personally, I would say that, knowing the Beacham brothers as I do, if stricken here with an acute and grave illness which required sound medical judgment and competent surgical skill, I would wish for no better doctors than they.

My dear Mrs. Beacham and the Beachams,—my dear friends, permit me in closing to recall the lines of a poem—in reality a hymn, which was composed by Oliver Wendell Holmes—the most inspired and beloved poet of the medical profession,—on the occasion of the dedication of a hospital which was named for him. It is now 62 years since that event, which I remember because the date of the dedication (June 7, 1877) coincides with the year of my admission to the Medical Department of the University of Louisiana,—now Tulane.

The sentiments expressed seem so fitting to this dedication and in such perfect harmony with the spirit of thankfulness, good will and cheerfulnss that now prevail throughout the nation with the near approach of Christmas,—the most blessed day in Christendom,—that I can think of no better epilogue for this dedication than this inspired quotation:

"Angel of love, for every grief
Its soothing balm thy mercy brings,
For every pang its healing leaf,
For homeless want, thine outspread wings.

Enough for thee the pleading eye,
The knitted brow of silent pain;
The portals open to a sign
Without the clank of bolt or chain.

Who is our brother? He that lies
Left at the wayside, bruised and sore:
His need our open hand supplies,
His welcome waits him at our door.

Not ours to ask in freezing tones
His race, his calling, or his creed;
Each heart the tie of kinship owns,
When those are human veins that bleed.

Here stand the champions to defend
From every wound that flesh can feel;
Here science, patience, skill, shall blend
To save, to calm, to help, to heal.

Father of Mercies! Weak and frail,
Thy guiding hand Thy children ask;
Let not the Great Physician fail
To aid us in our holy task.

APPENDIX

To one who is interested in the genealogy or history of names, the surname Beacham, as an Anglicized or Americanized phonetic contraction of the original French "Beauchamp" possesses unusual attraction. The name has its equivalents in almost every modern language, including the English Fairview or Fairfield, the Italian Campobello, the German Schoenfeldt, etc. While the French speaking people everywhere retain the name in all its purity, it has also been literally grafted in its original form in English nomenclature since the days of the Conquest in the 11th century, when Beauchamps of Normandy accompanied William the Conqueror at Hastings and were rewarded by earldoms and large tracts of land which still remain as baronial estates in the possession of the proudest names in the British nobility.

Thus we see the Beachams or Beauchamps appearing in the dukedoms in Normandy crossing the Channel and fighting with William at Hastings, then at Runnaymede, compelling King John to sign the Magna Charta; at Crecy, as standard bearers to King Edward; again before Jerusalem with Richard the Lion Hearted, leading the crusaders to wrest the Holy Sepulchre from the grip of the Moslem infidels; still later as the Beauchamps of Bedford, Elsley, Eaton and Warwick, they furnish material for the making of generals, scholars, bishops, archbishops and kings. And so, as time marches on, we find the Beauchamps present with almost unfailing fidelity in every corner of the British Empire, sharing the destinies of the Crown.

Beauchamp, like all other French names that begin with the prefix "beau," meaning fair or beautiful, is always suggestive of beautiful, agreeable or pleasant in the primordial possessors of the name. Thus, by the side of Beauchamp we see Beaumont, Beaufort or Beauford, Beauregard, Beauvoir, Beaulieu, Beauville, Beaumanoir, Beaucaire, etc., all of which prevail unchanged among the English speaking people, particularly in England itself, where a Norman ancestry seemingly possesses a decided heraldic value.

The American transformation of Beauchamp to Beacham or more rarely Beecham, is easily explained, like Bunyan from "Bon Jean" on the basis of phonetic expediency, especially by the early English speaking settlers of the Atlantic border who could not pronounce French. It is interesting to note that the American Medical Directory of 1938, containing the names of some 150,000 physicians, lists 16 Beauchamps and only three Beachams.

With a little imagination and a flair for genealogical research it is easy to unfold a vast and colorful panorama which shows the Beauchamps of Normandy, of Hastings, of the Crusades and of Crecy, halting by the sea to embark for their greatest adventure across the seas, that which is to end with the conquest of the American wilderness, there to create a new civilization and a grand democracy in which the fighting Beauchamp barons of Normandy fuse and resurrect as the lifesaving, peaceful Beacham Doctors of Mississippi.

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THE MID-SOUTH POSTGRADUATE ASSEMBLY

The fifty-fifth annual session of the Mid-South Postgraduate Medical Assembly is behind us. Although the attendance was probably less than it has been sometimes in the past, due to the snowy weather and influenza epidemic, this meeting as usual measured up to one of the best in the United States.

It was through no little work by the officers of this organ that such a wonderful program was presented. Those of you who did not have the opportunity to attend this session missed a great deal. Such men as Walters, Cave, Tyson, Larry Martin, Perrin Long, Wilder, Heyd, Conwell, Fitz, and Quitman Newell, presented papers that could not be surpassed by any group of men in the world. Others on the program not named were also outstanding, but I mention these merely in passing to give you who did not attend an idea of this wonderful meeting.

Dr. A. F. Cooper of Memphis, Tennessee, is as usual the guiding light and outstanding worker and is to be complimented on his wonderful perseverance and ability in handling the best meeting of its type in the United States.

L. W. L.

THE HOSPITAL PROGRAM

Those of you who have not become acquainted with the fact that the legislature is in session and that this legislature is vitally interested in hospitalization for the indigent sick in Mississippi should become so at once.

For the first time in several years the legislators themselves are interested in rendering a service to the indigent needing hospitalization, and are attempting to formulate some ideas and plans for the best method. Your editor has been working with members of the legislature, the president of the State Medical Association and his committees, and many others, attempting to formulate some well-grounded plan for the care of these unfortunate people.

I think that at this time it is necessary that you, as practicing doctors in Mississippi, should interest yourselves in this program. Contact your senator and representatives and tell them that we need a well organized and a well financed program to care for the indigent needing hospitalization and medical service in this state. If this is done at this time we believe that all members of the legislature will become even more interested.

To date there has been no bill presented by any committee or released from any committee setting up this service, but it is contemplated that such a program will be formulated in the near future. Now is the time to get in a good word for this service.

L. W. L

REGIONAL MEETING OF THE AMERICAN ACADEMY OF PEDIATRICS

The State of Mississippi and its medical profession should feel justly proud of the Regional Meeting of the American Academy of Pediatrics. This is the first time such a meeting has been held in Mississippi. It is a recognition of the forward steps that the medical profession is making and we should all feel justly proud.

The program is an outstanding one divided into the following panel discussions:

(1) Hematology and Anemias of Infancy in Childhood.
(2) Intracranial Injuries to the Newborn.
(3) Surgical Pediatrics.
(4) Sulfanilamide and Sulfapyridine.

The meeting is being held at the Edgewater Gulf Hotel and the committee on arrangements is headed by Dr. Harvey Garrison, Sr. We should feel justly proud of Dr. Garrison for his ability to arrange this meeting in Mississippi. He is a past-president of our State Medical Association, former councilor of the Southern Medical Association, chairman of the Pediatrics Section of the Southern Medical Association, and a long time delegate to the American Medical Association, representing our state. His interest in organized medicine has been well founded through the many years that he has engaged in practice and his faithful service to the profession is widely recognized. We are justly proud of him from Mississippi, and realize that he, as state chairman of the American Academy of Pediatrics, has quite a load to carry for this meeting.

All of us are interested in children in one form of practice or another and we should do ourselves the justice and Dr. Garrison the honor of attending some of these panel discussions on diseases of children.

L. W. L.

The Mississippi State Medical Association will meet this year at Jackson, May 14, 15, and 16. Jackson is centrally located and is the home of the able and talented president, Dr. J. P. Wall. We should have a large attendance at this meeting, for Jackson has fine hotel accommodations and the professional spirit is charged with cordiality and cleverness. You will recall the elaborate entertainment furnished by the doctors of Jackson, the Central Medical Society, and the people of the capital city, two years ago when Dr. Garrison was president, and many other times in the past. Dr. Wall has been one of our most active presidents, certainly one of our most liberal in the contribution of time and funds for the good of the association. We want to show our appreciation to our president, to the Central Medical Society, and to our guest city. We want to rally to the standard set this year: "Organized medicine needs you and you need organized medicine." For our own good and for the good of others we should certainly attend our state meeting. In addition to the many medical problems that will come up which every doctor needs to know about and to help solve, we are assured of one of the very best scientific programs we have had in many years. The fellowship will do us good. Keep in mind the state meeting and set apart these three appointed days.

The population of our state has increased seventy-nine per cent within the last fifty-three years, but the number of doctors has decreased eleven per cent. In the United States during this period the number of physicians increased eighty-four per cent, along with an one-hundred-eighteen per cent increase in population. In 1886 we had one physician to every 673 persons; now we have one doctor to 1353. In Itawamba County there is one physician to 3,645. At present in the United States we have one physician to 762. In Mississippi about seventeen per cent of the doctors are sixty-five years of age or more, while in the United States at large only about thirteen per cent have reached this age. More than fifty per cent of Mississippi's population is colored. Mississippi has about a hundred hospitals, all told. With a little more perfect distribution this number is quite adequate for our needs until we have more funds. Only fifty-three per cent of our general hospital beds are occupied. We have the lowest number of hospital beds in general hospitals in the United States, about 1.5 per one thousand population. Mississippi has a per capita distribution of funds for the indigent which is a noble gesture to carry medical service out to all the people at a reasonable cost. It is almost impossible to get recent graduates in medicine to locate in the country or the smaller towns in our state. And when they do they seem to have trouble adapting themselves to conditions because of their teaching in school and in the large hospitals. The indications are that the reduction in the number of doctors in Mississippi will be much more rapid in the future than in the past.

The Southern regional meeting of the American Academy of Pediatrics will meet at Biloxi, Miss., March 15 and 16. The first afternoon and evening sessions will be devoted to scientific papers and addresses. Speakers on the first day include Dr. Harvey F. Garrison, Sr., Jackson; Dr. Edward Clay Mitchell, University of Tennessee; Dr. Arthur C. Quinn, University of Tennessee; Dr. Clyde V. Croswell, University of Tennessee; Dr. James Hughes, University of Tennessee; Dr. F. D. deLorenzo, Memphis, and Dr. F. J. Underwood, Jackson. Dr. Horton Casparis, Vanderbilt, speaks on the second day.

Dr. and Mrs. Roy Keith of Anna, Ill., came back to the Mid-South this year after an absence of three or four years. They were highly pleased with the program this year. We feel sure they will be back next session. They have a nice clinic well equipped up at Anna and are keeping up with the latest in medicine. Dr. Keith's favorite sport is bird hunting. Out on his farm from gushing springs from the hillside he supplies water to all his stock in city style. He says the nice shower bath for the hogs on hot days is especially popular with them.

The Beacham brothers, Drs. A. V., H. T. and W. D., certainly paid a deserving tribute to the memory of their father in the establishment of the Beacham Memorial Hospital at Magnolia. It is a service monument and very fitting for their father who loved the practice of medicine and loved to do something for others. It also indicates that the love of service to the people who need it so badly is alive in their hearts and inspiring them to nobler heights. You will read the account of the memorial services and the address of Dr. Matas with interest and profit.

The Mid-South Postgraduate Medical Assembly, which met in Memphis last month, presented one of the best programs of its history. The attendance was off quite a bit, but the interest was unusually good and it seemed to increase until the close of the last lecture. We already have on file fifteen out of the twenty-four papers presented and others are coming in. We expect to publish a large per cent of them in March, April and May so that our readers may have the benefit of their valuable contents.

The Psychiatric Division of Bellevue Hospital has been studying alcoholism and many problems it creates for some time. It has been found that metrazol is very valuable in the treatment of acute alcoholism. The American Journal of Psychiatry published an article on this subject in November, 1939. Metrazol is a Bilhuber-Knoll product.

Dr. R. B. Robins, of Camden, Ark., has been named chairman of the council of the Arkansas Medical Society to succeed the late Dr. Val Parmley, of Little Rock. He is succeeding a very able man, but is worthy and well qualified to serve with distinction.

We deeply regretted the absence of Dr. J. F. Runyon, of Clarksville, Tennessee, at the Past-Presidents Club and at the scientific meetings of the Mid-South. Dr. Runyon is a very versatile man and outstanding in the profession. We hope his health may soon improve.

The outstanding orator of the Past-Presidents Club of the Mid-South is Dr. Jere Cook, of Jackson, Tennessee, and he is always full of good cheer and enthusiasm.

Dr. and Mrs. J. T. Walker, of Crowder, Miss., were recently honored by their children with a dinner party at the Claridge Hotel, Memphis, Tenn., celebrating their golden anniversary.

News and Comments

DR. JAMES H. HUTTON

Dr. Hutton, of Chicago, president of the Illinois State Medical Association, who will appear on the scientific program of the Northeast Mississippi Medical Society at Corinth in the afternoon of March 12, will address the Auxiliary in the afternoon, and be the chief speaker at the doctors' banquet in the evening. At the banquet he will speak on medical economics.

DR. T. P. HANEY DIES

Dr. T. P. Haney, of Iuka, Miss., died on February 22 at McRae's Hospital in Corinth. Dr. Haney was injured in an automobile accident Christmas and suffered a heart attack three weeks previous to his death. Dr. Haney was county health officer of Tishomingo County for about eight years. He leaves his wife, Mrs. Mattie Gist Haney, a son, Dr. Paul Haney, county health officer of Pike County, three daughters, Mrs. C. R. Stephens, McComb, Mrs. Eugene Gerald, Leland, and Mrs. H. D. Webster, Oxford.

Dr. Haney was a much loved man in Tishomingo County. He was a family physician in the true sense because of his sincere interest in his patients. He thought of them, he studied their needs and administered to them when sick. Dr. Haney was a most kindhearted man and one who always gave due consideration to others. He took a keen interest in his local, district and state medical societies. We offer our sympathy to Mrs. Haney, Dr. Paul and the daughters in their great loss.

STATEMENT FROM PRESIDENT DARRINGTON

The Mississippi State Hospital Association meets this year on March 27 in conjunction with the Southeastern Hospital Conference in Biloxi. We are quite fortunate this year in having the privilege of serving as the host state for this large gathering. There will be representatives of hospitals throughout the South and I hope that all the people who are interested in hospitals in Mississippi will attend. It will give them an insight into the problems and accomplishments of the hospitals, not only in Mississippi but in our neighboring states. I am sure it will be both pleasant and profitable to those that attend.

Make your plans to come to this convention in order that we will have a creditable representation from Mississippi.

GILRUTH DARRINGTON, President

TO THE MEDICAL PROFESSION OF MISSISSIPPI

The regional meeting of the American Academy of Pediatrics will be held at the Edgewater Gulf Hotel at Edgewater Park Friday and Saturday, March 15 and 16.

As the state chairman for the American Academy of Pediatrics, it gives me a great deal of pleasure to extend a most cordial invitation to every physician of this state, regardless of the type medicine he is practicing, to attend this two-day meeting.

This is certainly a rare privilege for the physicians of this state to be able to hear the discussions by the most able men in pediatrics throughout the Southern states.

The tentative program for this meeting has already been run in THE MISSISSIPPI DOCTOR.

I sincerely hope that all of you will avail yourselves of this opportunity to be with us at this time.

Sincerely,

HARVEY F. GARRISON

RESOLUTION

WHEREAS, God has decreed a time for man to be born and a time for him to leave this world and

WHEREAS, Life's journey on this earth should not be measured by years but by the many good deeds performed and

WHEREAS, God grants wisdom and thought to a few to labor in his vineyard for the health and happiness of those less fortunate and

WHEREAS, the doctor who is the follower of the Great Physician, is by nature and training one who loves to administer to the sick and go about doing good unto others and

WHEREAS, There has been removed from our midst one such a one, in the person of Dr. Joseph E. Green, who was a noble son, a loving husband, a sympathetic father, a follower of the Great Physician, and one who, himself possessed all the essential prerequisites so necessary to a true physician, administered to others without regard for personal gain but at many times with much sacrifice when he himself was suffering much physical discomfort.

THEREFORE, BE IT RESOLVED, by the Mississippi State Pediatric Society in session at Jackson, Mississippi, February 9, 1940, that in the passing of our dear friends, Dr. Joseph Green, this organization has lost a real exponent of the art of healing; the home, a faithful loving head; the community, a most valuable citizen, the church of God, a devout servant and follower; and our profession as a whole, a great leader of the cause of right.

BE IT FURTHER RESOLVED, That a copy of these resolutions be spread upon the minutes of this society and a copy be forwarded to the family of our dearly beloved brother, and to the MISSISSIPPI DOCTOR.

GOITER MEETING IN APRIL

The American Association for the Study of Goiter will meet at Rochester, Minn., April 15, 16, and 17. It again offers the Van Meter Prize Award of $300 and two honorable mentions for the best essays submitted concerning original work on problems related to the thyroid gland. The Award will be made at the annual meeting of the Association providing essays of sufficient merit are presented in competition. The essay may cover either clinical or research investigations; should not exceed three thousand words in length; must be presented in English, and a typewritten double-spaced copy sent to the corresponding secretary, Dr. W. Blair Mosser, 133 Biddle Street, Kane, Pennsylvania, not later than March 15.

PRESIDENT CLYDE M. SPECK

Dr. Clyde M. Speck, of New Albany, Miss., who was elected president of the Mid-South Postgraduate Medical Assembly at is fifty-fifth annual session at the Peabody Hotel, Memphis, Tenn., February 15. We offer our most cordial congratulations to our neighbor. Dr. Speck served as vice-president of the Mid-South several years ago, and has been on the editorial board for some time. Dr. Speck has been active in general practice for many years. He operates a hospital at New Albany and was recently admitted as a member of the American College of Surgeons. He will serve well as president of this great organization.

Dr. J. C. Culley, of Oxford, Miss., one of the outstanding surgeons of Mississippi and a past-president of Mississippi State Medical Association, was elected vice-president, with Dr. Thos. F. Hudson, of Luxora, Ark., and Dr.

Roy M. Lanier, of Brownsville, Tenn., representing their respective states. Dr. A. F. Cooper, the veteran secretary-treasurer of the association, was re-elected.

DR. J. T. SENTER

Dr. J. T. Senter, of Fulton, president of the Northeast Mississippi Thirteen Counties Medical Society which will hold its first quarterly session of this year at Corinth on March 12. Dr. Senter will preside over the meeting. Dr. Senter is a native of Itawamba County. He graduated in Medicine from Louisville, Ky., in 1907. He has been actively in the practice for thirty-three years. He loves the profession and has been true to its highest ideals. He is not only steadfast in medical integrity, but he is a citizen of the finest type.

DR. WILLIAM THOMPSON DIES

Dr. William Eberle Thompson, Batavia, O., died February 17, at the age of 104. He was recognized as the oldest practicing physician in the United States. He had practiced medicine at Bethel for 77 years. Dr. Thompson served as surgeon with the Union forces during the Civil War and often came in contact with Gen. U. S. Grant.

FINNISH RELIEF FUND

Members of the American Medical Association are being asked to contribute to the Finnish Relief Fund. It is sponsored by Mr. Herbert Hoover. Dr. John Frederick Erdman, of New York, is national chairman, and Dr. Kerwin W. Kinard, executive director. Send your contributions to Finish Relief Fund, Inc., 420 Lexington Avenue, New York, N. Y.

DR. MORGAN DIES AT OKOLONA

Dr. Dewitt F. Morgan, of Okolona, died at his home February 18, following a heart attack. Dr. Morgan was 71 years of age and had practiced in Okolona about 50 years. He was a member of the district, the state and the A. M. A. societies.

COMING MEDICAL MEETINGS

Mississippi State Medical meeting at Jackson, Miss., at Robert E. Lee Hotel, May 14, 15, and 16.

The Southeastern Surgical Congress meets at Birmingham, Ala., at the Tutwiler Hotel, March 11, 12 and 13.

The American Medical Association meets in New York City, June 10 to 14.

National Tuberculosis Association meets in Cleveland, June 3 to 6.

Tennessee State Medical Association meets in Chattanooga, Tenn., April 9 to 11,

Arkansas Medical Society meets at Ft. Smith, April 15 to 17.

Region 11, American Academy of Pediatrics, Edgewater Park, Miss., March 15 to 16.

DOCTORS' TWO-DAY PROGRAM

World's Fair, N. Y.—More than 8,000 leading American doctors and their wives will participate in an elaborate two-day program at the World's Fair of 1940, in New York June 14 and 15, announced Dr. Morris Fishbein, editor of the Journal of the American Medical Association, today. The American Medical Association is staging its annual convention in New York City June 10-14, inclusive.

The entire House of Delegates of the A. M. A., comprising 250 doctors, will be dined and entertained at the Fair Monday, June 10, said Dr. Charles Gordon Heyd, of New York City, Chairman of the Convention Committee. Medicos are currently arranging a full program for public interest and consumption at the Fair Saturday, June 15.

THE BEACHAM MEMORIAL HOSPITAL MAGNOLIA, MISS.

Dedicated to the memory of one of Mississippi's most energetic medical leaders of the last half-century, the Beacham Memorial Hospital, located at Magnolia, Miss., has been opened to the public with appropriate ceremonies featuring addresses by Dr. Rudolph Matas, Dr. F. J. Underwood and others.

Housed in a beautiful brick building, and equipped with such late features as automatic heat and air-conditioning, the new hospital is considered a fitting tribute to the late Dr. W. D. Beacham, who with other progressive physicians of his day, did much for the advancement of health and medicine in this state.

Dr. George W. Robertson, the oldest of the Magnolia physicians, made the principal address on behalf of the Pike County physicians. Other visitors participating in the opening program besides Drs. Matas and Underwood, included Dr. Guy Caldwell, professor of orthopaedics at Tulane; Dr. Edgar Hull, head of the department of medicine at Louisiana Medical School; Dr. Robert Strong, professor of pediatrics at Tulane; Dr. E. L. King, professor of obstetrics at Tulane; Dr. George Haik, assistant professor of ophthalmology at L. S. U.; Dr. John Connell, New Orleans pathologist; Dr. H. T. Beacham and Dr. W. D. Beacham, sons of Dr. W. D. Beacham, now in New Orleans; Dr. W. L. Little, former president of the Mississippi Medical Association, and about fifty other physicians from south Mississippi.

DR. RUDOLPH MATAS

Dr. Rudolph Matas, of New Orleans, in whose honor the fourth annual session of the New

Orleans Graduate Medical Assembly was held February 26-29. A reception was given on the opening night as a tribute to his sixtieth year in active practice. Dr. Matas is the medical spirit of New Orleans. His work in vascular surgery is known around the world. He is one of our nation's most versatile men. But even so, it is the spirit, the heart and the soul of the man that binds men to him as by hoops of steel. As the years go by what he says is listened to with keener interest and his words seem more profound. Surely it is true that if a man keeps mentally and physically fit he is worth more to human society every day that he lives even if he reaches a full century. You will read with interest his address delivered at the dedication of the Beacham Memorial Hospital.

PAST-PRESIDENTS' CLUB

The Past-Presidents Club of the Mid-South Postgraduate Medical Assembly met in Room 213 at the Peabody Hotel on Wednesday evening, February 14, at six o'clock as the banquet guests of Dr. H. Fay H. Jones of Little Rock, Arkansas, president of the Mid-South Postgraduate Medical Assembly. Dr. Jones presided over the meeting. A fine dinner was served and greatly enjoyed by every one present. Dr. P. W. Rowland, of Oxford, Mississippi, president of the club, and who claims the marked distinction of being the only charter member now living as far as can be ascertained, was full of good cheer and optimism and assured everybody that he would be back next year. It was deeply regretted that Dr. J. B. McElroy, of Memphis, vice-president of the club, was not present.

After the banquet, President Jones gave each and every member an opportunity to speak what was in his heart and every one responded with something appropriate. Dr. Lawrence W. Long was praised liberally for organizing the club last year and deep appreciation was expressed to Dr. Jones for his generosity in giving the banquet this year. The members expressed praise for the Mid-South for what it has done in the past and declared their willingness and desire to do anything possible for it in the future. The following officers of the club were elected for 1940-41: President, Dr. J. B. McElroy, Memphis, Tenn.; Vice-President, Dr. Allen E. Cox, Helena, Ark.; Secretary, W. H. Anderson, Booneville, Miss.

Those present were: W. H. Anderson, Booneville, Miss.; Dr. B. C. Arnold, Jackson, Tenn.; Dr. Allen E. Cox, Helena, Ark.; Dr. Jere L. Crooke, Jackson, Tenn.; Dr. John Darrington, Yazoo City, Miss.; Dr. A. G. Hudson, Memphis, Tenn.; Dr. F. L. Husbands, Blytheville, Ark.; Dr. H. Fay H. Jones, Little Rock, Ark.; Dr. L. W. Long, Jackson, Miss.; Dr. P. W. Lutterloh, Jonesboro, Ark.; Dr. L. H. McDaniel, Tyronza, Ark.; Dr. V. B. Philpot, Houston, Miss.; Dr. P. W. Rowland, Oxford, Miss.; Dr. H. King Wade, Hot Springs, Ark.; Dr. N. S. Walker, Dyersburg, Tenn., and Dr. John Henson, Judsonia, Ark. Those absent were: Dr. J. W. Barksdale, Jackson, Miss.; Dr. A. F. Cooper, Memphis, Tenn., honorary member; Dr. Carl R. Crutchfield, Nashville, Tenn.; Dr. C. M. Harwell, Osceola, Ark.; Dr. M. B. McElroy, Memphis, Tenn.; Dr. F. J. Runyon, Clarksdale, Tenn.

Work for some good, be it ever so slowly;
Cherish some flower, be it ever so lowly;
Labor—all labor is noble and holy.

MISSISSIPPI STATE HOSPITAL ASS'N.

The Mississippi State Hospital Association will meet at the Edgewater Gulf Hotel on the coast Wednesday, March 27. Dr. Gilruth Darrington will preside as the efficient and honored president, and Dr. Leon S. Lippincott as secretary. A splendid program has been arranged. And since we cannot separate hospitals and the practice of medicine, it behooves every doctor who can to attend this meeting. Also, the day afterward the Southeastern Hospital Conference honors Mississippi by meeting in the same place.

BOOK REVIEWS

Population, Race and Eugenics, written by Dr. Morris Siegel and published by him, 546 Barton St. East, Hamilton, Ontario, is a most interesting book. The price is three dollars. The author discusses the why of eugenics, defines positive and negative types and calls attention to the importance of the problem. He gives liberal space to the chapters on the relation of eugenics and the population, pointing out the classes that are most productive and discussing the I.Q. of their offspring. He points out that the population of the world is on the decrease and has been for about fifty years. Dr. Siegel says the graduates of some colleges for women produce only one offspring to three and one-third persons. Reproduction is much higher in the country than in the city according to the writer and he points out the reasons. Marriages and moral appeal are evaluated in their relation to human society. Racial theories in their relation to eugenics are given due consideration. In the second division of the book feeblemindness, the classification, hereditary relation, and other causes are fully discussed, followed with the treatment which is largely prophylactic. Any progressive doctor will read this book with much interest.

HANDBOOK OF ORTHOPAEDIC SURGERY, by Alfred Rives Shands, Jr., B.A., M.D., Medical Director of the Nemours Foundation, Wilmington, Deleware; Associate Professor of Surgery in Charge of Orthopaedic Surgery, Duke University School of Medicine, Durham, N. C. In collaboration with Richard Beverly Raney, B.A., M.D., Association Orthopaedic Surgery, Duke University School of Medicine, Illustrated by Jack Bonacker Wilson; 447 pages, 154 figures. Published by the C. V. Mosby Company, 1940.

This book, now in its second edition, was written with the idea of presenting the field of orthopaedic surgery to the medical student and general practitioner in a concise, abbreviated form, yet include enough detail to make the book of value as a guide in treatment of the various orthopaedic conditions which it covers. The illustrations used are redrawn from the photographs or roentgenograms with pen and ink, in order to present the characteristic features being discussed.

Emphasis has been placed on the diagnosis and treatment with elimination as much as possible of historical discussion and of the development of the procedures in the effort to simplify and abbreviate the text. However, for those desiring detailed further knowledge an excellent bibliography containing references to outstanding articles on various orthopedic subjects is included.

The text is divided into 24 chapters. Sixteen of the chapters are arranged on the basis of pathology; seven are arranged according to anatomical region, and include diseases that do not fit in the pathology grouping. Each disease entity is discussed under the following heads—incidence, pathology, clinical picture, diagnosis, prognosis, and treatment. The authors have been particularly careful and successful in eliminating the extraneous material and yet retaining enough detail to make the discussion of value. This book is of great value to the general practitioner as it presents a concise, well-rounded fund of authoritative information that is instantly available when needed.

ATLAS OF SURGICAL OPERATIONS, by Elliott C. Cutler, Mosely Professor of Surgery, Harvard University, and Chief Surgeon of the Peter Bent Brigham Hospital, and Robert Zollinger, Assistant Professor of Surgery, Harvard University, and Senior Associate in Surgery at the Peter Bent Brigham Hospital. 181 pages, 84 plates. Cloth. Price, $8.00.

This book presents in illustrated form the technical details of common surgical procedures.

The authors of this atlas felt the need of such a work and have designed it to fill a unique spot which has been neglected in recent years. Most texts of surgery do not give detailed step by step accounts and illustrations of the technical procedures encountered in operative work. This leaves the young surgeon in the dilemma of having to refer to numerous textbooks or to current periodicals or surgical literature in attempting to review and study the technical steps of a particular surgical procedure which he might need in the work of the day. As such a procedure is time-consuming and in certain localities impossible, this book has been designed to give the intimate technical steps of most common surgical procedures in such a way that they may be quickly studied and reviewed.

This is accomplished by beautifully clear pen and ink drawings showing the intimate technical steps encountered and on the opposite page a written text of the procedure. Thus, with easy cross reference from plate to text, a combined verbal and graphic description of each step in the operation is obtained.

It is an atlas of general surgery and includes the common operations in the field of gynecology as well as the procedures for tonsillectomy, tracheotomy, thoracentesis, biliary surgery, etc. In addition, short chapters on surgical technique, preoperative preparation, postoperative care, and anesthesia are included.

This book should prove invaluable to all who desire a quick reference work of the technical details of the common surgical procedures.

Mississippi State Medical Association

Organized in 1867

Next Meeting: May, 1940, Jackson

OFFICERS

President—J. Percy Wall, Jackson
President-Elect—W. H. Anderson, Booneville
Vice-Presidents—Hugh Johnston, Vicksburg
T. E. Ross, Hattiesburg
J. E. Ellis, West Point

Secretary—T. M. Dye, Clarksdale
Editor—Lawrence W. Long, Jackson
Historian—Leon S. Lippincott, Vicksburg
Speaker—J. Rice Williams, Houston
Treasurer—E. Leroy Wilkins, Clarksdale

COUNCIL

First District—J. W. Lucas, Moorhead
Second District—L. L. Minor, Rt. 4, Memphis, Tenn.
Third District—R. B. Caldwell, Baldwyn
Fourth District—J. K. Avent, Grenada
Fifth District—Lawrence W. Long, Jackson
Sixth District—H. Lowrey Rush, Meridian
Seventh District—J. P. Culpepper, Hattiesburg
Eighth District—W. H. Frizell, Brookhaven
Ninth District—D. J. Williams, Gulfport

COMMITTEES

Program:
Surgery—Edwin Benoist, Natchez
Hygiene and Public Health—E. W. Noblin, Sr., Jackson
Medicine—Ira Seale, Holly Springs
E. E. N. and T.—E. Staton, Columbus

Anti-Barbiturate:
J. M. Acker, Aberdeen
J. Gould Gardner, Columbia
L. S. Lippincott, Vicksburg
B. J. Marshall, Whitfield
E. LeRoy Wilkins, Clarksdale

Public Policy and Legislation:
Felix J. Underwood, Jackson
Henry Boswell, Sanatorium
W. H. Anderson, Booneville

Charity Hospitals:
J. C. Culley, Oxford
W. W. Crawford, Hattiesburg
John Darrington, Yazoo City
B. B. Martin, Vicksburg
H. R. Shands, Jackson

COMPONENT SOCIETIES

County Society	President	Secretary-Editor	Time of Meeting
Adams	James C. Rice, Natchez	Fred Geisenberger, Natchez	Third Tuesday 7:30 p. m.
Alcorn	G. W. Googe, Rienzi	Bernard Patrick, Corinth	Third Thursday 7 p. m.
Amite	W. T. Thornhill, Crosby	D. H. Thornhill, Crosby	Second Thursday 7:30 p. m.
entral Medical	W. H. Watson, Jackson	H. C. Ricks, Jackson	First Tuesday 7:30 p. m. Omit July and August.
Claiborne		G W. Acker, Port Gibson	
Clarksdale and Six	W. H. Williams, Tunica	L. B. Austin, Rosedale	1st Wed. March and Sec. Wed. Nov.
Clarke-Wayne	W. P. Gray, Waynesboro	Albert Hand, Shubuta	
Coahoma	L. H. Brevard, Clarksdale	Julius L. Levy, Clarksdale	
Coast Counties	B. B. O'Mara, Biloxi	D. L. Hollis, Biloxi	
Delta Medical	G. Y. Gillespie, Greenwood	F. M. Acree, Greenville	Sec. Wed. April and Oct., 2 p.m.
DeSoto	Henry M. Wadsworth, Hernando	L. L. Minor, Memphis, Rt. 4	
East Mississippi	C. H. Harrison, Philadelphia	Guy T. Vise, Meridian	
Franklin	C. A. Everett, Bude	L. Costley, Meadville	
Issa-Shar-Warren	Walter E. Johnston, Vicksburg	Alston Callahan, Vicksburg	
Jefferson	C. R. Senter, Byhalia	Herbert Phillips, Holly Springs	Second Thursday.
Marshall		W. T. Harper, Fayette	
Newton	W. L. Henton, Decatur	Dudley Stennis, Newton	
North Mississippi	C. M. Speck, New Albany	A. H. Little, Oxford	Third Wed., Jan., April, July, Oct.
Northeast Miss.	J. W. Lipscomb, Columbus	A. J. Stacy, Tupelo	Sec. Tue., Mch., June, Sep., Dec.
Pike	E. M. Givens, McComb	T. Paul Haney, Jr., McComb	First Thursday
Pontotoc	J. H. Windham, Ecru	E. B. Burns, Pontotoc	
South Mississippi		Van C. Temple, Hattiesburg	
Sunflower		H. B. Cottrell, Indianola	
Tallahatchie	G. Lacy Biles, Sumner	J. E. Powell, Charleston	
Tate	W. D. Smith, Senatobia	J. S. Eason, Coldwater	Second Wednesday
Cop.-Law.-Lin.-Wal.	J. J. Pittman, Tylertown	R. B. Zeller, Hazlehurst	Sec. Tue., March, April, June, Dec.
Webster	E. T. Arnold, Bellefontaine	H. K. Curry, Eupora	
Wilkinson	C. E. Catchings, Woodville	E. M. Butler, Centerville	
Winona District		S. B. Caruthers, Grenada	

Interpreting Medical Literature

STAFF OF REVIEW

Dermatology—James G. Thompson, Jackson.

Eye—S. S. McNair, Jackson.

Ear, Nose and Throat — Alston Callahan, Vicksburg.

Obstetrics and Gynecology—J. W. Lucas, Greenwood.

Orthopedics—Thomas H. Blake, Jackson.

Pathology and Clinical Pathology—John C. Henthorne, Jackson.

Pediatrics—Harvey F. Garrison, Jackson.

Public Health—Felix J. Underwood, Jackson.

Radiology and Roentgenology—Karl O. Stingily, Meridian.

Surgery—W. H. Parsons, Vicksburg.

Urology—Temple Ainsworth, Jackson.

Discussion and comments are invited.

DERMATOLOGY

DANGERS IN THE USE OF COSMETICS, George L. Wolcott, M.D., Archives of Dermatology and Syphilology, January, 1940.

Beauty aids have long since ceased to be secret formulae and little tricks, so to speak, that were passed from mother to daughter or from friend to friend. The production and sale of cosmetics has become a big business and employs thousands of people. The products are advertised over the radio, on bill boards, and in magazines, and the public has been made cosmetic conscious by the glowing phrases and beautifully described cosmetics with their catch phrases, such as, "Dish water hands," and "That skin you love to touch."

George L. Wolcott, M.D., Archives of Dermatology and Syphilology, January, 1940, takes up the discussion of the dangers in the use of cosmetics and discusses it in detail. He makes several important statements with regard to the various harmful ingredients in toilet powders, facial creams, lipsticks, nail polishes, hair and eyelash dyes, perfumes, and depilatories.

Considering the number of people who use cosmetics, and the great variety of cosmetics on the market, the percentage of reactions is relatively low. Formerly the poisoning of patients systemicly from the long continued use of such poisons as lead, mercury, and other heavy metals, was not uncommon, but this has changed now to where the greater number of reactions are more of the contact type of dermatoses and react locally.

The anilin dyes and coal tar derivatives, in particular the paraphenylendiamin group, are the most serious offenders. Hair dyes and more especially eyelash dyes are the most dangerous of all the cosmetics in that blindness is sometimes produced by the use of eyelash dyes. There are other substances such as synthetic perfumes and nail polishes that occasionally cause damage.

Reference is made to the Federal Food, Drug and Cosmetic Act of 1938, designed to regulate interstate and foreign commerce in these items. The new law defines cosmetics, outlaws ingredients proved to be deleterious or poisonous and rules against coal tar eyelash and eyebrow dyes. Other coal tar dyes are permitted. No cosmetic ingredient of any kind need be listed on the label.

J. G. H.

EYE

SYPHILITIC PRIMARY OPTIC ATROPHY, by J. E. Moore, M.D., and Alan C. Woods, M.D., Baltimore, taken from American Journal of Ophthalmology, vol. 23, January, 1940.

In what amounts to a short monograph, these authors criticise, clarify and bring up to date the literature on the pathology and pathogenesis of syphilitic primary optic atrophy. Certain known factors about the pathology are reviewed: the general agreement that the process begins in the intracranial portion of the optic nerve distal to the chiasm; the degeneration first begins in the marginal fibers of the nerve; and the thickening and perivascular round cell infiltration of the overlying membranes, especially the pia, and of the connecting tissue septa of the nerve. The development of optic atrophy probably does not depend on the actual presence of T. pallida in the optic nerve or visual pathways, since the organism, although demonstrable in one of those locations in a small proportion of patients with optic atrophy, can be likewise so demonstrated in patients without optic atrophy.

It is an old observation that primary optic atrophy in neurosyphilis occurs with greatest frequency, if not almost exclusively, in tabes dorsalis; that in many instances it develops before definite evidence of posterior-column damage is obvious (the optic atrophy of "pre-ataxic" tabes); and that it may occur in occasional cases of otherwise apparently stationary tabes, with negative serologic findings in blood and spinal fluid. Especially noteworthy is the fact that optic atrophy is rare in uncomplicated paresis, even though widespread meningovascular and parenchymal changes in other parts of the brain are always present; but it is very common in tabo-paresis.

And indeed, to understand the pathogenesis of preventing optic atrophy, one must understand the pathogenesis of tabes dorsalis itself, and this is as yet far from clear. The differences of tabes dorsalis from other types of neurosyphilis may be summarized briefly as follows: (1) A longer incubation period, averaging 24 years to that of meningovascular neurosyphilis of 14 years, and that of paresis 19 years, (2) peculiar selectivity for the posterior columns of spinal cord, (3) relative refractoriness to specific or non-specific anti-syphilitic treatment, (4) low reagin content of both blood and spinal fluid, (5) lesions are remarkable for the absence of T. pallidum.

There has existed for some time a belief among ophthalmologists and neurologists alike that not all cases of primary optic atrophy in syphilitics were tabetic in origin. Many individuals so afflicted with this ocular disorder had no tabes. Optochiasmatic arachnoiditis has been advanced by some investigators as the explanation; it produces optic atrophy by the production of inflamed tissue—an arachnoid veiling, which surrounds, compresses and fixes to neighboring structures the optic nerves and chiasm. Not all optochiasmatic arachnoiditis is caused by syphilis; trauma, sinus disease and encephalitis also are factors.

The optic atrophy of this condition differs from that of tabes; it is usually bilateral at the outset, much more rapid in course, often has hemianopsia associated, and pupillary action is not interfered with, and the visual failure is out of proportion to the pallor of the discs. While this clinical entity is definitely known and partly understood, it does not explain the many cases of optic atrophy in which arachnoiditis cannot be demonstrated at operation or necropsy.

Experimental workers, feeding diets deficient in vitamin B to animals, have been able to produce marked degeneration of the posterior columns of the spinal cord, the dorsal root, ganglion cells and peripheral nerves. From this, and some clinical findings, the theory has been advanced that the primary optic atrophy of syphilis is due to the combination of neurosyphilis and nutritional deficiency. This requires much further study before it can be accepted, but offers some hope of the elucidation of the problem.

COMMENT

Like all of the papers reviewed in this section, this one is of value to the Mississippi doctor. A conservative estimate of the cases of syphilitic atrophy seen by us at the Vicksburg Charity Hospital in the last 3 years would be between two and three score. These unfortunate individuals, hopelessly blind for life, are pathetic; careful questioning usually reveals absurdly inadequate anti-syphilitic treatment often months or years previously. Few of them have had tabes dorsalis; perhaps these cases, which have had from two to ten or twelve injections of neo-salvarsan at some time in the past constitute a particular clinical entity.

Often the fault is with the patient, who receiving enough injections to relieve himself of the signs or symptoms which he has, fails to return for further treatment; but many are the cases in which the physician's carelessness or ignorance is the major factor. Despite the hundreds of negroes, as well as whites, who are treated for syphilis in our state, very few have periodic visual field studies; indeed, some patients have stated that when visual failure began, their doctors increased the dosage and frequency of injections.

Our recommendation is, of course, obvious; every effort should be made by the physician to educate the lesser intelligent patient of the seriousness of his disease and the possibilities which may occur; visual fields should be made periodically at intervals of six weeks; and at any suggestion of impairment of vision, all therapy should be discontinued until proper opthalmoscopic studies have been made.

—S. S. M.

PATHOLOGY

PATHOLOGIC AND HISTOLOGIC CHANGES FOLLOWING ORAL ADMINISTRATION OF SULFAPYRI-

DINE, WITH A SHORT NOTE OF SODIUM SULFAPYRIDINE, W. Antopol and H. Robinson, Arch. Path., 29:67176, (Jan.), 1940.

Urinary concretions in experimental animals following oral administration of sulfapyridine have been reported. Passage of crystals in the urine of patients receiving oral sulfapyridine with or without symptoms has also been observed. (Subsequent to this report a case of urinary suppression during sulfapyridine therapy was reported in J. A. M. A.).

Experimentally species of animals and individual animals varied in the amount of urinary concretions formed. Mice and dogs formed uroliths poorly evidently because the metabolism of these species is such that acetyl sulfapyridine (the composition of most of the crystals) was formed less readily than in other species.

If the animal was killed 24 hours after the drug was administered, crystals were found in the ureter at the level of the bony pelvic brim. After five to ten days of feeding the concretions were at the ureter-ovesical junction or in the bladder. The ureter became dilated, and the kidney became enlarged. Pronounced hydronephrosis developed. In some instances, aggregate of crystals filled the renal pelvis and extended into the papillary ducts of the kidney. Blood urea determinations on the blood of monkeys after several days of sulfapyridine administration all showed increased retention.

Histologically the kidneys of monkeys revealed degenerative changes characterized by granular degeneration of the tubules and the accumulation of globoid eosinophilic coagulum in the tubules and in the glomeruli. Inflammatory changes such as pyelonephritis and purulent periureteritis were observed. After prolonged administration of sulfapyridine, calcium casts were found in the tubules.

At times there was an extremely hemorrhagic ureteritis and pyelitis far in excess of that which might be expected from the presence of the corresponding calculus. In two instances urinary obstruction was caused by clotted blood.

It was possible to wash crystals from the urinary tract, but inflammatory changes in the kidney and urinary passage were still present after seventy-nine days.

The authors feel that they cannot conclude definitely whether the precipitation of acetylated sulfapyridine in the urine is primary or dependent on initial degnerative changes. Gastritis with increased gastric mucous secretion was also observed.

LYMPHOID TUMORS IN MICE RECEIVING ESTROGENS, W. U. Gardner, A. Kirschbaum, and L. C. Strong, Arch. Path., 29:1-7, (Jan.), 1940.

Lymphoid tumors and lymphatic leukemia have been observed in mice. In the strain of mice used in this experiment, such tumors seldom occurred spontaneously. One and 49 lymphoid such mice were given estrogens and 117 were untreated controls. None of the control animals developed spontaneous lymphoid tumors. A lymphoid tumor developed in only 1 of 86 mice receiving brief estrogenic treatment or estrogen and testosterone simultaneously. Of the 149 mice treated with estrogens 22 or 15.4 per cent developed lymphoid tumors which were either leukemic or non-leukemic.

MICRO-PROTHROMBIN TEST WITH CAPILLARY WHOLE BLOOD KATO, K. Am. J. Clin. Path., 10:147-154, (Feb.), 1940.

The discovery of vitamin K, and its possible etiologic relationship to hemorrhagic diatheses has given rise to great interest in blood coagulation. Deficiency of vitamin K is responsible for the bleeding tendency in obstructive jaundice, liver injury, hemorrhagic disease of the newborn, and sweet clover diseases of chicks and cattle.

The most constant effect of this vitamin deficiency is depression of the prothrombin level of the blood, resulting in prolongation of clotting time. A suitable and at the same time practical method of determining the blood prothrombin has been devised by Quick.

Quick's method calls for 4.5 cc. of venous blood. The method devised by the author does not require venipuncture and is particularly applicable to newly born infants.

Method: Capillary blood is allowed to flow into the hollow of the hanging-drip slide which has previously been coated with dried oxalate. The blood is then mixed with thromboplastin and calcium chloride solution, and the time for clotting determined by a stop watch. The average clotting (prothrombin) time by this method is 20 seconds. The entire test is carried out at room temperature.

PROTHROMBIN STUDIES, ESPECIALLY IN THE NEWBORN, W. E. Bray and O. R. Kelly, Am. J. Clin. Path., 10:154-167, (Feb.), 1940.

According to one group of investigators, the prothrombin level of the blood has been found to be about 25 per cent of normal adult value in the newborn and almost completely absent in hemorrhagic disease during the period of bleeding. According to Quick, however, the prothrombin level in newborn infants is about normal. The authors undertook the investigation in the hopes of clarifying the conflicting data.

In 23 newborn infants no vitamin K was given routinely and the prothrombin time was found to vary widely, regularly increasing to a peak on the second to the fifth days and in favorable cases falling to the usual (normal) range for adults after the fifth day.

Four out of five cases with prolonged prothrombin time gave some clinical evidence of hemorrhagic disease, one of them with fatal intracranial hemorrhage.

The platelet count has been shown to be worthless in detecting hemorrhagic disease of the newborn.

Either whole blood or plasma may be used to determine prothrombin time because differences in results are not sufficiently great to obscure the clinical significance of the test.

—J. C. H.

PEDIATRICS

Convalescent Serum in Acute Anterior Poliomyelitis. Report of a Study of 168 Patients, 69 Treated and 99 Untreated, J. C. Geiger, R. W. Burlingame, and R. C. Miller, California and Western Medicine, 51:303, (November), 1939.

"San Francisco experienced sharply accelerated epidemic indices of acute anterior poliomyelitis in 1921, 1925, 1927, 1930 and 1934 . . . In the Isolation Division of the San Francisco Department of Public Health, in the epidemic periods inclusive, there have been admitted, treated and clinically studied 168 patients, of whom 95 were males and 73 were females. The age distribution was from 1 to 54 years, but apparently 90 per cent occurred between the ages of 1 to 30, and the majority of these latter between 1 to 14 years. The temperature ranged from 99 degrees to 104 degrees, the greatest number of cases showing between 100 and 102 degrees. The pulse rate ranged from 70 to 130, but the greatest number of cases averaged 100 to 110. As far as the accompanying symptoms were concerned, headache was reported in 53.5 per cent of the cases; rigidity of the neck in 39.2 per cent; pain in the back in 32 per cent; muscular tenderness in 29.7 per cent, and vomiting in 48.8 per cent. The white blood cell count varied from 6,000 to 30,000, but in the majority of cases was from 6,000 to 15,000, with a differential count from 70 to 80 per cent polymorphonuclear leukocytes. The spinal fluid cell counts varied from less than ten to 600, but in the majority of cases they ranged from 10 to 20 cells to 200. In 40 per cent of the cases, the number of cells in the spinal fluid was 40 to 100. In 56 per cent of the cases, there was noted 95 per cent lymphocytes in the spinal fluid cell count. The Pandy test was positive in 80 per cent of the cases.

"The distribution of the paralysis varied, including the leg, face, abdomen, arm, shoulder and bulbar type. Fifty-four per cent of the cases showed only leg involvement, and of these 42 per cent were bilateral. The interval between onset and hospitalization varied from one day to four weeks, but over 90 per cent were hospitalized during the first week of the illness and many cases in from one to three days.

"An attempt to evaluate the effect of convalescent serum was made, inasmuch as an unusual opportunity presented itself because convalescent serum had been used only in the 1930 and 1934 epidemic periods. The number of patients to whom the convalescent serum was administered was 69, and the number not so treated was 99.

"The question which naturally arises is whether a patient having any clinical type of the disease, or in whom the disease has progressed to the paralytic state, can be benefited by definite dosages of convalescent serum? A critical review apparently answers these questions as to the effectiveness of convalescent serum, since the initial dosage employed was generally 50 cc. and in some cases increased to 150 cc. The cases with entrance paralysis show little or no variation between the treated and untreated in percentages of partial or complete recovery, or death. Among those considered early cases, but with entrance weakness, the percentages of partial or complete recovery show equally small or no variations in the treated or untreated. The early cases with no entrance weakness or paralysis, however, indicate that a different viewpoint can be stressed. The paralytic cases (27) when treated with convalescent serum recovered without any residual paralysis. Therefore, in this series of cases of this type or in early cases of acute anterior poliomyelitis with clinical and laboratory evidence substantiating the diagnosis, it would appear that convalescent serum is of benefit."

COMMENT

The above abstract takes a little different view from what has generally been accepted in the recent past. Many very good authorities have not thought much of the value of convalescent serum in the treatment and prevention of poliomyelitis.

It has been my practice to use it a great deal, and I have felt that it was of value. I am therefore delighted to see that this abstract shares in that belief. I think it is well worth the trial since we do not have anything any better.

H. F. G.

State Board of Health

Felix J. Underwood, M.D.

Present Day Urgency for Complete Birth and Death Registration

The physician has a very important part in the vital statistics system and his responsibility for the prompt reporting of births and deaths is not one which can be taken lightly. Every week hundreds of requests pour into the Division of Vital Statistics for proofs of births and proofs of deaths. Dr. R. N. Whitfield, Director of the Division, enumerates the following reasons for which such requests are made:

Because claims on the federal government and other agencies cannot be settled with these proofs.

Because a boy or girl finds hard sledding now to get a government position or a job with a corporation without submitting proof of date of birth and of nationality.

Because the federal government requires a birth record to get into such service as the C.C.C., the Army or the Navy.

Because the birth certificate settles the question of the age of the man or woman or boy or girl who expects to vote.

Because property rights, court privileges, school age, ball-playing age, work age, marriage age, etc., depend on the birth certificate for certification.

Social security benefits for millions rest upon the proofs of birth or the proofs of death.

"The great pity of the present day is the fact that there are some who are so thoughtless as to keep a child from its birthright—its birth certificate—or a family from having on file the death record of a loved one," stated Dr. Whitfield.

Two intensive tests of birth registration in Mississippi will be conducted in the very near future. The first of these will be made right away under the direction of Dr. Whitfield with the co-operation of the county registrars and the principals of the schools. Only last year's births will be checked. The other test will be made by the U. S. Bureau of the Census and will cover the months of December, 1939, and January, February and March, 1940. The census enumerators will list every baby born during these months on a separate card, and these cards will be matched against copies of birth records furnished the Census Bureau by the State Board of Health.

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The ninth edition of the PHYSICIAN'S HANDBOOK ON BIRTH AND DEATH REGISTRATION, containing international list of causes of death, has just been released by the Bureau of the Census, and will be made available to all Mississippi physicians.

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To promote better nutrition and health for Mississippians, a series of regional nutrition institutes is being held throughout the state during March. Featured on these programs will be Miss Marjorie M. Heseltine, Consultant in Nutrition of the Federal Children's Bureau, on "Food Needs and the Nutritive Value of Common Foods; Dr. Dorothy Dickins, Director of Home Economics Research at the Mississippi Agricultural Experiment Station on Economic Situations Affecting Family Food Supply; and Miss Miriam Birdseye of the U. S. Department of Agriculture Extension Service, on "Planning to Get Foods that Families Need."

These institutes are being held at the following places:

Tupelo Community Hospital, March 4, 1940.

Meridian County Health Department, March 6, 1940.

Hattiesburg Forrest Hotel, March 8, 1940.

Jackson, Robt. E. Lee Hotel, March 9, 1940.

Greenwood City Hall, March 11, 1940.

* * * * *

Recent prominent visitors to the central offices of the State Board of Health included Dr. W. A. McIntosh of the Rockefeller Foundation. Dr. McIntosh also visited the Lauderdale County Health Department, upon which he comments as follows: "I did not allow myself enough time in Lauderdale County but was there long enough to be thoroughly impressed by the local health organization which is being developed under Dr. Knight's dictatorship. I have never had the opportunity of viewing a better housed health department and I am sure that the outstanding health services which are being rendered will continue to be the order of the day for years to come. I think it is a great asset to Mississippi to have a unit, such as this one, to give field training to health workers who will serve subsequently in health positions throughout Mississippi."

* * * * *

Recognizing the value of a full-time county health department to the welfare of its citizens, the Board of Supervisors of Tishomingo County has voted an appropriation for the support of a full-time unit, to be organized July 1, 1940. The organization of this county makes a total of 47 counties in the state which have been committed toward the support of a full-time health department.

* * * * *

The Conference on the Control of Venereal Diseases in the Southern states, held at Atlanta February 13-14, was well attended by health officials of the South. From the State Board of Health of Mississippi went Dr. Felix J. Underwood, Executive Officer; Dr. A. L. Gray, Director of the Division of Preventable Disease Control; Dr. D. V. Galloway, Supervisor of Venereal Disease Control; Dr. Paul T. Erickson, Consultant, Venereal Disease Control; and Dr. H. C. Ricks, Director of Laboratories. Surgeon General Thomas Parran served as chairman of the conference, and subjects discussed included diagnostic measures, control through treatment, control through prophylaxis, record forms, case-finding and case-holding, the relationship of prostitution to venereal disease control, informative program among physicians, public educational measures, qualifications of personnel, and general administrative problems.

* * * * *

Dr. Underwood attended the White House Conference on Children in a Democracy at Washington, January 18-20. This is the fourth in a series of children's conferences held during the past 30 years in the interest of all the nation's children and covering every aspect of child welfare—including home life, material security, education, health and general preparation for the responsibilities of citizenship. As a member of the Report and Planning Committees, Dr. Underwood participated in the planning of the conference and the report presented, for discussion and action, by the Report Committee.

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Reportable Diseases in Mississippi

INFLUENZA: There was a state-wide epidemic of influenza in January, 1940, as indicated by physicians' reports. Cases totalled 24,757 as compared to 7,296 cases reported for January, 1939. The disease began its march over the state late in 1939, with 9,451 cases being reported in December.

DIPHTHERIA: A total of 31 cases of diphtheria were reported by physicians of the state in January, this year. This compares to 26 and 28 cases in January of 1938 and 1939 respectively.

SYPHILIS: Physicians' reports for the year 1939 certainly indicate a high incidence of syphilis in the state. There were 29,082 cases reported by physicians in 1939. Ten years ago, in 1929, physicians reported 17,001 cases. This marked increase in reported cases over a 10-year period is probably due primarily to recent increased interest in the disease, and secondarily to actual increase in prevalence of the disease during the past ten years.

POLIOMYELITIS: Poliomyelitis cases have continued their decline since the peak year, 1937, when there were 352 cases. The year 1938 saw 69 cases and the year 1939, 26 cases. Primarily a disease of the summer and fall months, previous experience indicates that the disease will further decline during the next two or three years and then will again increase in prevalence. During January, 1940, there were 3 cases reported. This compares to 1, 3, and 2 cases for the same month in 1937, 1938, and 1939 respectively.

OPHTHALMIA NEONATORUM: Six cases of ophthalmia neonatorum were reported in January. This disease continues to be relatively prevalent. In most instances, of course, it is due to infection of the eyes with gonococci during passage of the infant through the birth canal. If the eyes of the infant are infected with gonococci during the process of birth, symptoms will develop within the first week after birth unless silver nitrate solution is instilled into the eyes at the time of birth. Some cases reported as ophthalmia neonatorum are found to have been infected, however, usually by an infected mother as much as a month or more after birth. Investigation reveals that several of the cases developing ophthalmia neonatorum give no history of eye drops having been used in the eyes at the time of birth. This applies to cases delivered by both private physicians and midwives.

* * * * *

A new roster of Mississippi physicians, as of January 1, 1940, has been compiled by the State Board of Health and is available to all state physicians upon request. The list discloses that Mississippi has a total of 1,435 licensed physicians—1,381 white and 54 colored. The physicians are listed alphabetically, by counties, giving a clear picture of the total distribution. As an appendix, a list of the county health officers is given. This publication will prove a handy reference for many occasions.

* * * * *

At the American Academy of Pediatrics Regional meeting at Edgewater Park, March 15-16, Dr. Underwood will present a paper on the "Opportunity for Preventive Medicine in Pediatrics." Dr. Robert A. Strong, New Orleans, and Dr. Harvey F. Garrison, Sr., Jackson, head the Committee on Arrangements for this program, which promises to cover a wide range of subjects of interest to pediatricians and will feature many well-known authorities. Because Mississippi has been favored as the place for this meeting, it is the earnest hope of the committee that Mississippi physicians will turn out in large numbers and accord their out-of-state guests a hearty response.

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Mississippi Physicians Who Died During 1939

L. A. Barnett, Greenwood, 53, Organic Heart Disease, December 5; A. K. Barrier, Rolling Fork, 80, Parkinson's Disease, May 31; Marcus Beekman, Natchez, 55, Hypertensive Cardiovascular Disease, April 23; J. T. Butler, Brookhaven, 85, Hypertrophic Prostatitis, June 19; C. N. D. Campbell, Cruger, 77, Chronic Myocarditis, June 27; A. D. Chester, Cruger, 54, Pulmonary Tuberculosis, April 23; G. W. Clayton, Laurel, 57, Angina Pectoris, January 13; Claude Clegg, Clarksdale, 49, Acute Myocarditis, September 27; I. W. Cooper, Meridian, 56, Cirrhosis of Liver, January 26; W. S. Cranford, Taylorsville, 68, Arteriosclerosis, October 31; J. W. Crawford, Coldwater, 85, Intestinal Hemorrhage, April 13; B. C. Crisler, Jackson, 56, Phenol Poisoning, August 10; Lawrence A. Ford, Tupelo, 59, Accidental Drowning, May 19; G. L. Francis, Nettleton, 74, Cirrhosis of Liver, June 15; James E. Garrison, Kiln, 66, Hypertension, July 2; J. M. Golden, Walnut Grove, 73, Suicide by gunshot, February 25; Frank H. Hagaman, Jackson, 43, Automobile Accident, August 19; Tandy B. Harrison, Charleston, 77, Cirrhosis of Liver, December 31; C. P. Hemphill, Duck Hill, 81, Influenza, January 28; T. E. Hewitt, Summit, 61, Chronic Nephritis, November 30; E. J. Hudspeth, Ruleville, 53, Chronic Glomerular Nephritis, April 21; J. E. Hulett, Hattiesburg, 56, Acute Intestinal Obstruction, April 18; W. E. Jinkins, Charleston, 73, Aneurysm of Aorta, September 28; R. B. King, Columbia, 70, Coronary Thrombosis, February 3; Fletcher E. Lee, Columbus, Rt. 1, 65, Acute Yellow Atrophy of Liver, March 20; D. W. Magee, Wesson, 55, Carcinoma of Colon and Rectum, February 12; J. I. McCormick, Yazoo City, 67, Chronic Interstitial Nephritis, January 23; W. H. McCracken, Alligator, 72, Cancer of Rectum, February 21; W. E. Murphy, Sturgis, 57, Atrophic Cirrhosis of Liver, October 20; J. T. Norman, Sharon, 73, Influenza, July 15; W. M. Shepherd, Wiggins, Valvular Heart Disease, May 21; H. A. Smith, Sumner, 81, Mitral Regurgitation, August 1; J. D. Smith, Errata, 67, Angina Pectoris, May 8; T. A. Strain, Meridian, 52, Arteriosclerosis, September 21; R. E. Sylverstein, Tylertown, 71, Hypernephroma, January 2; J. Milton Terry, Philadelphia, 66, Apoplexy, November 14; H. W. Turnipseed, Tchula, 68, Duodenal Ulcer, September 16; U. S. Wasson, Moorhead, 58, Coronary Embolus, May 11.

Physicians Who Died in Another State, But Still Held a Mississippi License

(Not residents of the state at time of death)

John T. Denton, Sanford, Fla., 60, Rheumatic Heart Disease, August 3; Morriss Henry, Helena, Ark., 61, Influenza, April 17; R. R. Roberts, Lawrenceville, Ga., 42, Cerebral Hemorrhage, January 5.

Out-of-State Physicians, Not Licensed in Mississippi, Who Died in Mississippi

D. R. Brown, Vernon, Ala., ,56, Car Wreck, November 24; W. F. Brown, (Colored), Mobile, Ala., 68, Cancer of Stomach, September 21; John H. Buchanan, Memphis, Tenn., 33, Automobile Accident, November 8; Randall Schuyler, Michigan, (Long Beach, Miss.), 85, Heart Disease, August 17; Alexander L. Stewart, Gulfport, Miss., (Veterans Adm.), 84, Arteriosclerosis, November 26; Paul W. Woodruff, Chatfield, Minn., 34, Automobile Accident, August 16.

COAHOMA COUNTY MEDICAL SOCIETY and CLARKSDALE HOSPITAL MEDICAL STAFF

MINUTES

The Coahoma County Medical Society and the Clarksdale Hospital Medical Staff held their regular monthly meeting at the Alcazar Hotel at 12 noon, Wednesday, February 7. The minutes of the previous meeting were approved as read.

Since this was a joint meeting of the druggists of Clarksdale and our own staff, we had a full attendance, and the subject of sulfanilamide and sulfapyridine was discussed by all present. It was finally decided that sulfanilamide and sulfapyridine would not be sold over the counter at any drug store in Clarksdale without a prescription from a physician.

The president asked for one of the members to volunteer to present some subject of interest at our next meeting. Dr. J. L. Levy volunteered to present a paper.

There being no further business, the meeting was adjourned.

February 7, 1940 Julius L. Levy, M.D,
Clarksdale, Mississippi Secretary-Treasurer.

DeSOTO COUNTY

Peculiar Effects of Some Drugs

Thus, in some cases, opium, the great pacificator, cannot be administered without producing the most distressing symptoms, entirely contrary to those we ordinarily expect. There are on record well authenticated cases in which death to children has followed the ingestion of a small fraction of opium, while DeQuincy, well known as the author of "Confessions of An Opium Eater," took with impunity three hundred and twenty grains a day. In his "Confessions," he remarks: "Strange as it may sound, I had a little before this time descended suddenly and without effort three hundred and twenty grains of opium (eight thousand drops of laudanum) per day to forty grains, or one-eighth part. Instantaneously, and as by magic, the profoundest melancholy which rested on my brain like some black vapors I have seen roll away from the summits of the mountains, drew off with its murky banners as simultaneously as a ship that has been stranded and floated off by a spring tide 'that moveth altogether, if it moveth at all.' Now then, I was happy; I took only a thousand drops of laudanum per day, and what was that? A latter spring had come to close up the seasons of youth; my brain performed its functions as healthy as ever before; I read Kant again, and again I understood him, or fancied I did."

Speaking of this pain-easing dru, we have all seen cases where, instead of causing sleep, has produced brilliant wakefulness; instead of quiet, profound restlessness without cessation of pain; instead of stupor, most alarming loquacity.

Cannibis indica is a remedial agent of old with the uncertainty that attends some drugs.

Under the influence of hashish, knowledge of time is entirely lost—such are the number and variety of the images which occupy the mind as a result of it that a few minutes may appear to be hours, days or even years.

After the effects of the drug have passed, the hashish eater is usually unconscious of what has transpired in the interval. Sleep or coma, according to the dose, ends the effect of the drug. It has been contended, and probably rightly, that the form which the delirium takes indicates the mental and moral inclinations and conditions of the individual in his normal state; those who are naturally amiable and gay become more so under the influence of hashish; those possessed of evil and malignant dispositions incline to deeds of violence of this drug, as exhibiting the truth of the last statement, the first thing a lawyer wants to do is to make a speech, a banker wants to shave a note, a preacher wants to take up a collection, while a physician wants to give all he has to the poor.

The controversy over the discovery of ether as an anesthetic has been practically settled. The U. S. Government in March will issue a red two-cent stamp bearing the likeness of a Georgia village doctor named Crawford Williamson Long, and stating "Performed first successful surgical operation under ether anesthesia at Jefferson, Georgia, on March 30, 1842." On the above date, a student named James M. Venable had two tumors on the nape of his neck removed by Dr. Long under the influence of ether without pain or hurt of any kind; his ledger showed he received only $2.00.

Up East around Boston during 1846-47, a violent fight was raging between three men who each declared that he was the first to use ether as an anesthetic, viz.: William Thomas Green Morton, a Boston dentist, also a man of like profession, Horace Wells of Hartford, Conn., likewise another claimant was Dr. Charles Thomas Jackson of Boston, a most remarkable scientist of the age. It was by his advice that Morton used ether the first time in Boston.

Dr. Jackson claimed that he antedated Samuel F. B. Morse, a portrait painter, in the discovery of the electro-magnetic telegraph and had considerable data to substantiate his title.

The fight centered around these three, each had their strong partisans, the debate became very acrimonious and bitter.

Each made scurrilous attacks upon the other.

When they were dead, Connecticutt erected a memorial to Wells. Likewise Massachusetts to Morton, McLean Asylum, Somerville, Mass., was the mausoleum of Jackson.

Wells, in despair, took his own life in a prison cell. Morton, embittered, perished from a stroke induced by the excitement of reading one of Jackson's articles against him. Jackson died bereft of his reason.

Dr. Crawford W. Long was a village and plantation doctor, tall, slender, handsome and an immaculate dresser.

During the War between the States, he served the cause of the Southern Confederacy, with fervency and scientific zeal. If you have read or seen "Gone With the Wind," you can easily imagine the condition in Georgia. Sherman was a mighty man with fire. But Dr. Long returned to his practices and had the esteem and love of the countryside.

One winter evening in the year 1878, an extra urgent call, an obstetrical case, summoned Dr. Long who hastened to the relief of the patient. On his arrival she looked up at him trustfully. He opened his bag, he took out the bottle, unstoppering and pouring the ether on a sponge, the aromatic odor pervaded the room. In the act of applying he dropped the saturated sponge to the patient's nostrils, suddenly he dropped everything and fell across the bed, dead. He was one of the great benefactors of mankind. It is a matter of satisfaction to the South that one of her noble sons has been officially declared as the first doctor to use ether successfully in a surgical operation, one of the greatest boons ever offered to mankind.

It may be added to keep correct that his home town and state have erected suitable memorials; a stone likeness of him is in the National Capitol's Statuary Hall. The physicians of the South have paid their tribute to him. And besides these others have done their part in keeping his name and fame enduring.

"Of him may it be said, perhaps with as much propriety as if any other man that he never said a word too soon, nor a word too late, nor a word too much."

Advances in anesthesia, asepsis and more efficient methods of building the patient; better and more carefully prepared surgeons have greatly reduced the death rate from operations.

It was with genuine feelings of sorrow and regret that we read an account of the untimely death of Dr. Joe E. Green of Laurel. For about twenty-five years Joe Green has been an active and constructive member of the Mississippi State Medical Association; he was councilor and later president. In his younger days when he arose to address the body he would say, "This is Green from Green County." Green was active in Masonry, becoming Grand Master of this ancient and accepted order. He was a worker in civic, church and other organizations for the betterment of mankind.

We shall miss him sorely. Sincere condolence to his loved ones.

"There is no death! What seems so is transition;
This life of mortal breath
Is but a suburb of the life elysian,
Whose portals we call Death."
Longfellow—RESIGNATION.

Sincerity is to speak as we think, to do as we pretend and profess, to perform and make good what we promise, and really to be what we would seem and appear to be.—Tillotson.

Physicians over seventy are medicine's "forgotten men," the versatile president-elect of the Mississippi State Medical Association, Dr. W. H. Anderson, advised to Gulf Coast Clinical Society at Mobile, Ala. Calling for more attention to geriatrics, he asserted that the medical needs of the aged are neglected. Said he: "We are helping more people reach seventy. But after they cross the Biblical lifetime, we forget them. Yet they should be given particular care. The person past seventy should have more wisdom, be more cultured, and know more about living than the younger person. Perhaps we are losing great benefactions to mankind by forgetting the man past seventy."

"Otherwise Perfect!"

Have you ever been termed any or all of these? A discouraged wife of Flint left no phase unturned when she filed suit for divorce in Circuit Court.

Her declaration stated at various times her husband "has been sullen, mean, irritable, morbid, disagreeable, nasty, gruesome, cool, bitter, jealous, heckling, picayunish, loathesome, insulting, brazen, miserable, gluttonish, temperamental, selfish, contemptuous, inattentive, uncivil, and inconsiderate toward this plaintiff."

Apparently as an after thought she added that he is also "lazy, quarrelsome, drinks incessantly, gambles and even attempts to talk back." Thus is listed a few of mere man's delinquencies.—Detroit Free Press.

Of course, as Will Rogers said, all we know is what we read in the papers.

Dr. Charles Marshall Chilton, one of the many doctor natives of this state who have made good in their profession, died in his office in the Exchange Building, Memphis, of a heart ailment February 10, 1940. He was sixty years of age and his hobby was flowers which grew in profusion at his country home near Cordova. He was efficient in his work, reserved, and active in his church.

Charity practice is an outstanding medical obligation today, as is its corollary, fees they can afford to the low income group. Even though the bulk of non-pay service in the past decade of depression has grown to enormous proportions presenting a back-breaking professional burden, we as physicians must neither shirk nor falter. Cain's question to Jehovah must be answered in the affirmative. When charity practice is but a memory, and the tempering of the financial wind to the shorn lambs constituting the income producing poor is no longer in vogue, something of the finer will have gone out of the physician's life. His soul will be debased and will miss the exaltation which comes with service for the sake of service rather than for the sake of shekels.—Walter E. Vest, President S. M. A., Memphis, 1939.

The Bishop is so like Judas that I now firmly believe in apostolic succession.—Sidney Smith.

Be at war with your vices, at peace with your neighbors, and let every year find you a better man.—Franklin.

A number of people are models of politeness except when driving a car or telephoning.

Angelo Patri, child educator and columnist, had this to say in his newspaper column about the use of the telephone by the younger generation (and older ones too): "The telephone is a wonderful social institution. It is too good a friend, too fine, to be used cheaply, without dignty, or etiquette. Don't say, 'Guess who this is?'. And don't say anything over the line that you would not say face-to-face. Don't waste time, if you are using a party line, be meticulous about not holding it overtime." This applies particularly to the doctor, druggist, nurse or hospital telephone.

"To my early knowledge of the Bible I owe the best part of my taste in literature, and the most precious, and on the whole, the one essential part of my education."—John Ruskin.

Rt. 4, Memphis, Tenn. L. L. Minor,
Feb. 14, 1940. County Editor.

Woman's Auxiliary

TO THE
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Advisory Council: Dr. J. Percy Wall, Jackson; Dr. W. H. Anderson, Booneville.

MEDICAL SOCIETY FETED AT BANQUET

Members of the auxiliary of the Clarksdale and Six Counties Medical Society entertained with a banquet Thursday night at the Country Club honoring their husbands.

Spring flowers were used in the decorations. Mrs. W. P. Warfield, chairman of the Coahoma Auxiliary, presided, and Mrs. J. E. Furr of Marks, president of the auxiliary, and Dr. L. B. Austin, president of the Medical Society, were introduced.

DR. PERCY WALL COAST SPEAKER

Honor guest Feb. 22 at a luncheon given by the Woman's Auxiliary to the Tri-County Medical Society at the Hotel Markham, Dr. Percy Wall of Jackson, president of the State Medical Association, discussed proposed state legislation being advocated by the medical profession, including the enlargement of charity hospital facilities and the control of the sale of drugs containing barbituric acid.

Mrs. Hugh Johnston, of Vicksburg, president of the Woman's Auxiliary to the State Medical Association, who was also to have been an honor guest at the luncheon, was unable to attend.

Between 40 and 50 wives of doctors from the entire Coast area from Moss Point to Bay St. Louis were present with Mrs. M. M. Snelling, president of the Tri-County Auxiliary, presiding.

The decorations of red, white and blue bore out the patriotic motif in observance of Washington's birthday.

Music was furnished by Mrs. T. S. Morton, Jr., vocalist, accompanied at the piano by Mrs. M. E. James.

Dr. Wall, introduced by Dr. D. J. Williams, past president of the State Medical Association, spoke somewhat in detail of proposed increase in hospital facilities for the poor and needy of the state as now being advocated by the administration and having endorsement of the medical association's legislative committee as well as other proposed legislation of interest to the medical profession and auxiliary members.

CONVENTION PUBLICITY BULLETIN

The 18th Annual Convention of the Woman's Auxiliary to the American Medical Association will be held in New York City, June 10-14, 1940, with headquarters in the Hotel Pennsylvania. In view of the fact that the second edition of the World's Fair will accelerate advance hotel reservations, it is urged that reservations be made immediately through the Housing Bureau which has been set up by the American Medical Association, namely, Dr. Peter Irving, Room 1036, 233 Broadway, New York City.

The year's at the spring
The day's at the morn;
Morning's at seven;
The hill-side's dew-pearled;
The lark's on the wing;
The snail's on the thorn:
God's in his heaven—
All's right with the world!
—BROWNING

Now that spring is here, it's time to make plans to put on that program on the history of medicine, that drive for subscribers to the HYGIEA, or that pet project about which your auxiliary has talked often but never done anything. And, please, send in your activities. Not only other groups in Mississippi want to read about them, but also the Southern and A. M. A. organizations want our work reported.

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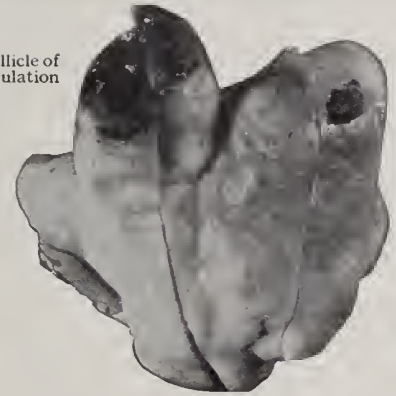
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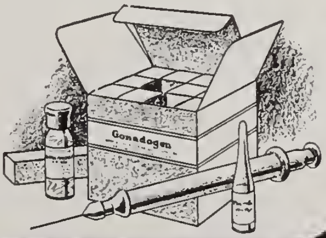

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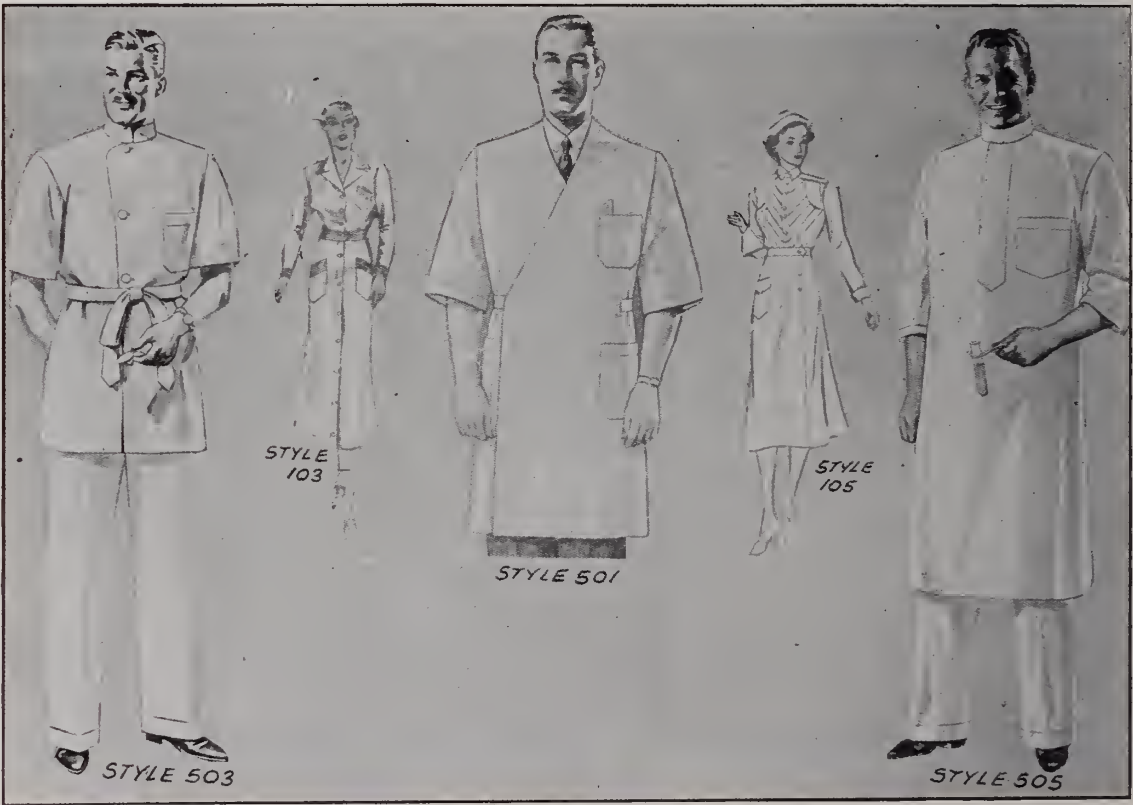
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The Mississippi Doctor

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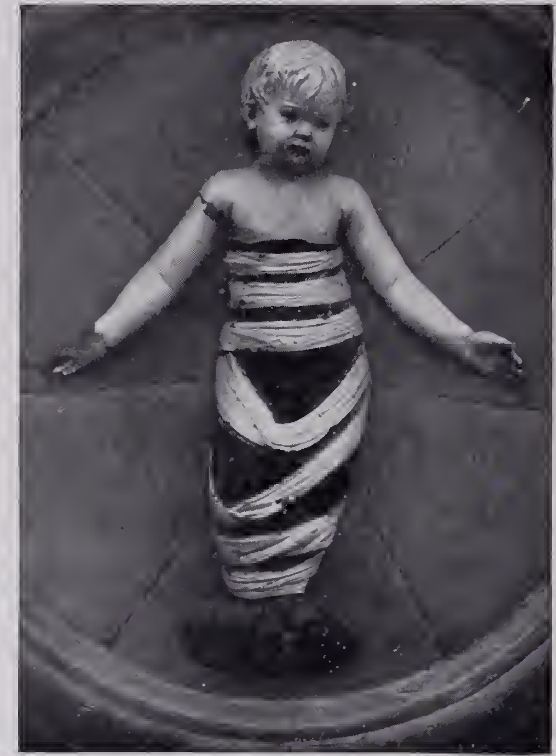
DR. IRVING ABELL
LOUISVILLE, KY.

Dr. Abell will deliver the annual oration at the Mississippi State Medical Association which will convene at Jackson, Mississippi, May 14, 15, and 16 with the Robert E. Lee Hotel as headquarters. Dr. Abell is a past president of the Southern Medical Association, the American Medical Association, and is now president of the Southeastern Surgical Congress. Since the death of Dr. W. D. Haggard, of Nashville, he is probably orator number one of the medical fraternity of our country. His easy and polished manner as an orator is reinforced by his medical knowledge, wisdom, and integrity.

**Mississippi State Medical meeting at Jackson, Miss.
May 14, 15 and 16**

The swaddled infant pictured at right is one of the famous works in terra cotta exquisitely modeled by the fifteenth century Italian sculptor, Andrea della Robbia. In that day infants were bandaged from birth to preserve the symmetry of their bodies, but still the gibbous spine and distorted limbs of severe rickets often made their appearance.



A bambino from the Foundling Hospital, Florence, Italy,—A. della Robbia

Glisson, writing in 1671, described an ingenious use of swaddling bands — "first crossing the Brest and coming under the Armpits, then about the Head and under the Chin and then receiving the hands by two handles, so that it is a pleasure to see the Child hanging pendulous in the Air . . . This kind of Excercise . . . helpeth to restore the crooked Bones. . . ."

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SWADDLING was practised down through the centuries, from Biblical times to Glisson's day, in the vain hope that it would prevent the deformities of rickets. Even in sunny Italy swaddling was a prevailing custom, recommended by that early pediatrician, Soranus of Ephesus, who discoursed on "Why the Majority of Roman Children are Distorted."

"This is observed to happen more in the neighborhood of Rome than in other places," he wrote. "If no one oversees the infant's movements, his limbs do in the generality of cases become twisted. . . . Hence, when he first begins to sit he must be propped by swathings of bandages. . . ." Hundreds of years later swaddling was still prevalent in Italy, as attested by the sculptures of the della Robbias and their contemporaries. For infants who were strong Glisson suggested placing "Leaden Shooes" on their feet and suspending them with swaddling bands in mid-air.

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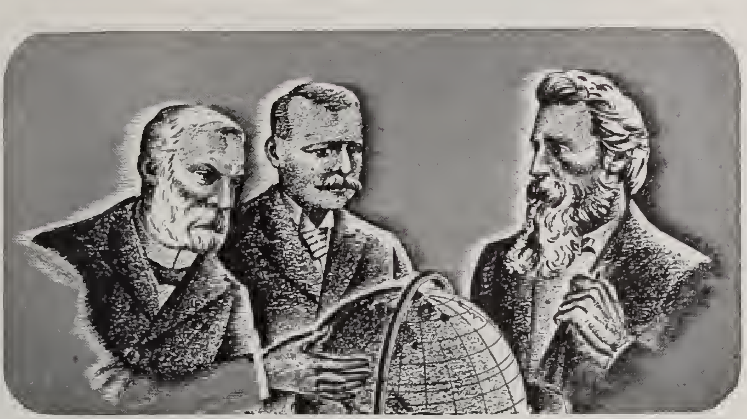

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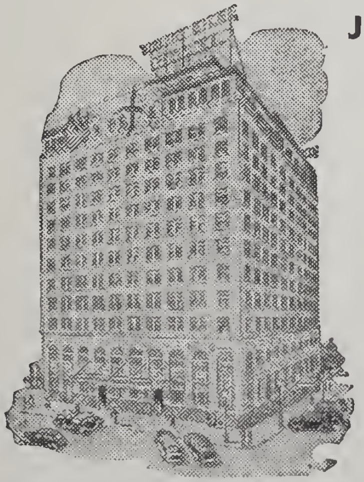

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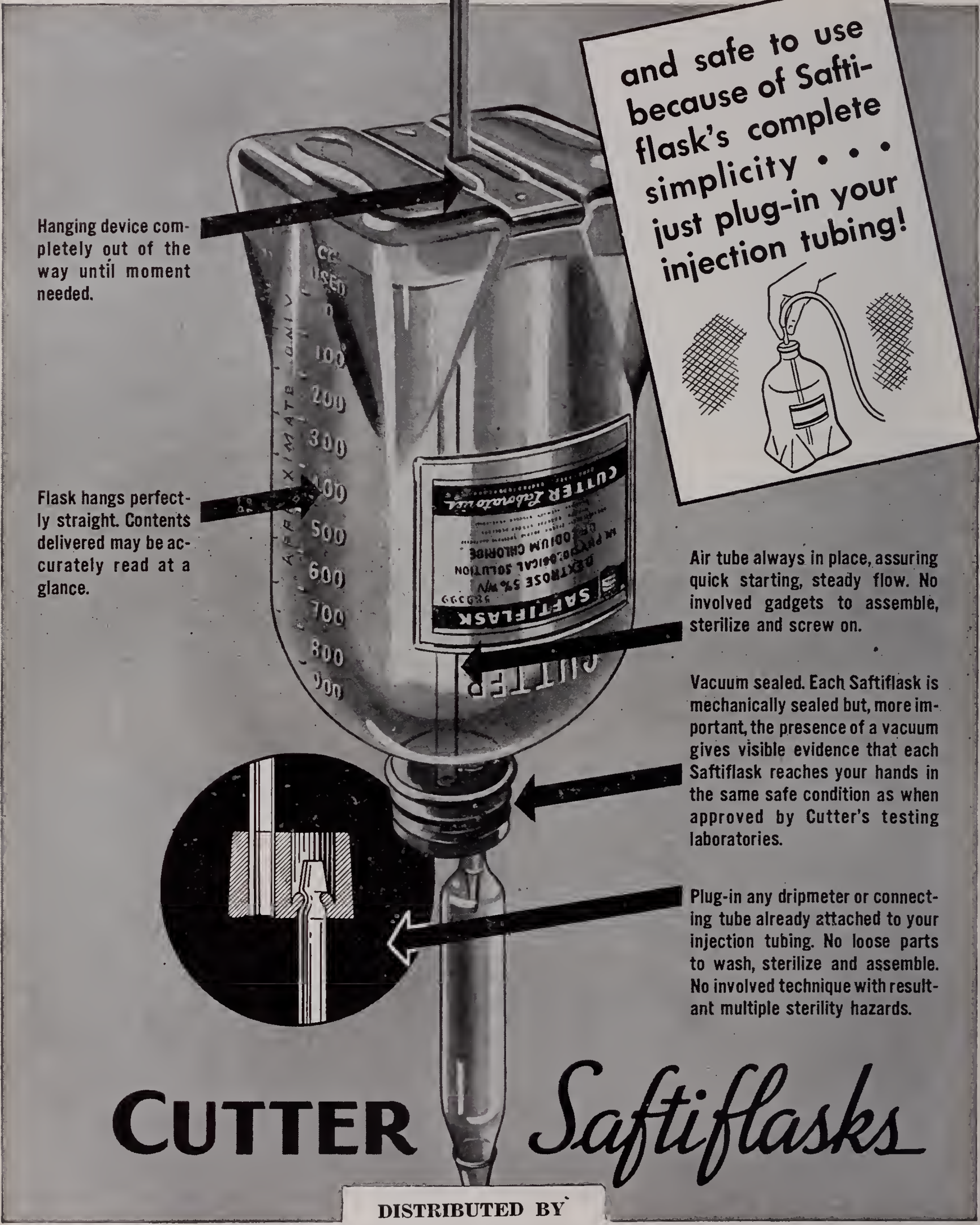

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The Present Trend In Medicine*

H. FAY H. JONES, M.D., F.A.C.S.
LITTLE ROCK, ARK.

THIS IS THE fifty-fifth birthday of the Mid-South. As your president I welcome each of you most sincerely to this assembly. I hope your stay will be happy and profitable. I wish to express my sincere thanks to the leaders who are to appear on the programs we are to hear during the next four days. We are proud of the Mid-South and the progress she has made. She has maintained a place which she holds jealously among the larger organizations and I deem it a privilege to have been honored as her president the past year. For this honor I express my profound gratitude.

With the splendid co-operation of our efficient secretary, Dr. Cooper, my duties have not been difficult. To him I am most grateful. I also wish to express my thanks to Dr. Anderson for his whole-hearted interest and co-operation through the columns of the MISSISSIPPI DOCTOR, to all committees and individuals whose efforts have contributed to the success of this meeting, and to the hotel management for their cheerful and efficient co-operation.

The reins which I surrender to my successor, Dr. Dunavant, will carry a greater responsibility than that which was placed on me. The problems confronting the medical profession are more complex. We are entering a period of time which most of us dread, that of government legislation or attempted regulation of medicine. Greater demands and more concentrated action will be necessary this year than ever before.

Two widely antagonistic forces are striving for dominance in America. On one side is the desire and ambition of the individual to live his own life and carry his own responsibilities and secure the utmost mental and material development. While on the other is the ambition to have the people subjected wholly to herd ideas whether advantageous or otherwise. The contest is between individuality and regimentation; and while regimentation with its attendant oppression has secured high places among decadent nations of Europe, it should be fought bitterly in America, which has grown great through private initiative. This conflict is especially apparent in the present trend toward socialized medicine.

Medical care has been classed as a necessity by the national government. No so many services are given that high rating, and all so rated cost a good deal of money. We hear much distressful talk about the suffering of the underprivileged and the indigent because of the high cost of medical care. These two unfortunate classes have but little money in any event, and there can be no doubt that they suffer from some other necessities as well. Those who propose a change in the present system of practice make no provision whatever for these people; they are still left to the charity of the private practitioner of medicine, because the beneficiaries of government medicine must have steady jobs or some other means of contributing to the system.

We are advised to turn from the system of private practice to some form of socialized or government medicine—to follow the lead of Germany or England. We crossed the ocean once to get away from the lead of European countries, and by adopting different customs and laws, built here the greatest civilization in history. Germany has had government medicine for more than fifty years; it was introduced there by Bismark as a political measure and not in response to public demand. It was introduced into England by Lloyd George as a political measure. No form of socialized government medicine has ever been proposed seriously that did not offer its beneficiaries a great deal more than they paid for; this is probably the secret of its popularity.

Politics is intimately bound up in the administration of socialized medicine in all cases where the government is called upon to pay large sums of money for its support, and no one could expect it to be otherwise. In one European country, several thousand doctors have been deprived of the privilege of practicing medicine for the government because they incurred the displeasure of the political powers.

---

*Read before the fifty-fourth annual session of the Mid-South Postgraduate Medical Assembly, February 13-16, 1940, Memphis, Tenn.

By way of preparing the ground for legislation subversive of private medical practice, the public has recently been bombarded with propaganda designed to injure the prestige of the medical profession and impair the people's confidence in their doctors. It cannot be too emphatically stated that the health, welfare and safety of the people of this country depend on their freedom from hampering control. That this control is in danger must be apparent to every thinking physician since the propaganda efforts directed against organized medicine, the purpose of which is to destroy wilfully public confidence in American medicine and discredit the individual physician, so there can be foisted in this country as a whole a system of controlled medical practice founded on schemes far distant from the fundamental principles which have brought American medicine to the position it now occupies. Almost all our achievements are the product of the independent inquiring mind. Ours is a rich heritage from the great pioneers of medicine who founded the tradition as helpers and leaders in the cause of public health, maintaining the high-minded standard of achievement before emolument, a good fight before a great fee. Federal medicine would be a tragedy for the American health record—the best in the world.

The medical profession is facing a crisis that has no counterpart in its history. Rights and liberties achieved by slow degrees are being threatened by movements that tend toward the regimentation of Communistic society or the outcry of the dictator.

All dictatorships, whether they rest their power in the last analysis on force, prefer to wield it by consent, and the propaganda power is the means of securing this consent. They all seek the support of the masses, and win it too, and make a legitimate claim that their governments rest on the consent of the governed. What they reject is the idea that this consent must derive from a thoroughly informed public opinion. They do not believe that happiness and freedom are found in knowledge and choice but in the acceptance of the proper belief. For these governments truth is not.

Ten years ago we did not think that Communism would spread in this country. Every day we are shocked to read news of some Communist plot being uncovered. This is only one instance of what propaganda has done. We are not afraid of the Communist if we know who the Communist is. So, we are not afraid to face facts if we know what is behind them. It behooves us to find out the facts and see that the public is acquainted with them in relation to the so-called National Health Act—or the Wagner Bill. It is not merely conjecture or rumor to say that the addition of the National Health Program to the Social Security Program will be an issue in 1940. The chorus for it has arisen at a thousand discussions this fall.

Seldom has more formidable propaganda in behalf of legislation been organized than in the case of this measure. Too long already have we stood idly by and it is high time we awoke to the realization that there is an increasingly great public sentiment for the extension of federal services to medicine. If the physician is to remain the master in the house of medicine it will only be by co-operation on his part with the hospitals to work out a plan for adopting medical service to present day needs. By voluntarily offering to work out such a plan the physicians may dictate the policies of organization, otherwise the government will be the dictator, the physician will become a hireling, and those dependent upon us for health and strength will be betrayed.

It is human to appreciate our blessings most when they are restricted; our liberty only when it is lost. With the political enshacklement threatening from all quarters, it is not surprising that there should come to us physicians an awareness that, with the continuation and intensification of the drive by propagandists to change the present form of medical practice through various legislative proposals, it has become increasingly evident that organized medicine must take the offensive.

To insure the most widespread distribution and the most effective methods and equipment in medicine and surgery physicians over the United States have organized the NATIONAL PHYSICIANS COMMITTEE FOR THE EXTENSION OF MEDICAL SERVICE. I earnestly bespeak your financial aid for this undertaking which is likely to play a crucial part in the fight against "Political Medicine." By all means line up with this organization in its broadcast of truth to every American citizen.

More than anything else I hope that as a result of this Assembly there will come a new enthusiasm and faith in the medical profession as a factor in directing the National Health Program, and that, when you return home, you will feel a new strength and a new consciousness of your personal importance in this work. Unless you feel this importance you will not be as dynamic a factor as you are entitled to be. It is our responsibility to accept changing aspects and to work them out to the best interest of posterity.

Blood Dyscrasias of Infancy and Childhood*

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THE PURPOSE of this paper is to present for general practitioners the current status of our knowledge of blood dyscrasias during infancy and childhood. It must be borne in mind first, that there is not complete agreement among workers on this subject and, secondly, that new and confirmed facts are being added rapidly.

Because of the instability of blood formation and destruction in babies and young children, it is necessary for us to proceed along lines different from those ordinarily employed in adults in order to understand these particular conditions. It would appear that nature has adequate, specialized manufacturing plants for the blood that are equipped to meet the exigencies of any age group. At all ages, the most prominent finding in blood pathology is the reduction of red blood cells, of hemoglobin, or of both, due to the failure of the blood forming organs to keep pace with blood loss or destruction. Certain factors such as iron metabolism, prematurity, acute infections, hemorrhage, vitamin deficiencies, tumors, gastro-intestinal conditions and heredity exercise a great influence on these organs in children under two years of age. The term anemia is frequently used when speaking of such conditions.

The blood forming organs in infants consist of the marrow of all bones and the extra medullary organs—liver, spleen and lymph nodes. **In later childhood**, the extra medullary blood forming organs do not function in this capacity; the blood is made in the marrow of all bones. **In adults**, the blood is made in the head of long bones and in the flat and small, spongy bones. The lymphocytes, of course, continue to be produced outside the bone marrow.

PECULIARITIES OF ANEMIA IN EARLY CHILDHOOD

Rapid growth in the first year taxes blood production in the normal, healthy child. When any additional influence is exerted, anemia is very apt to develop quickly. When the destruction is increased, the blood forming organs immediately respond by producing numerous new cells, not all of which are mature. Such **immature cells** are not as capable in their functional capacity as the mature cells. The diet that is **deficient in iron** will soon lead to anemia; **infections** show rapid effects and the toxins from such infections depress blood production long after the infection has subsided. It appears that no two children react in the same way to the same stimulus; in other words, there is a great **variability in the individual response** to the same stimulus in early childhood.

MECHANISM OF ANEMIA

Granting that materials for blood formation are adequate, the blood forming organs functionally capable, and the normal physiologic blood destruction is proceeding at its usual pace, no anemia will develop. It is when this mechanism is disturbed that we find changes in the peripheral blood stream, shown most simply by hemoglobin determination. The simplest cause of anemia is the direct loss of blood which may be either acute or chronic. Anemia may develop because of defective blood formation, due to either a lack of materials or to a defective manufacturing process. The defective manufacturing process may be the result of an inherent or heritably poor functional capacity, or it may be that the process is interfered with by extraneous conditions such as severe infections or invasion of the bone marrow by poisons, as in benzol poisoning.

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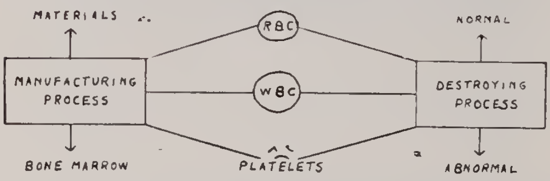
*Read before the fifty-fourth annual session of the Mid-South Postgraduate Medical Assembly, February 13-16, 1940, Memphis, Tenn.

FACTORS IN MECHANISM OF ANEMIA



If the destruction of blood proceeds at a rate more rapid than normal, the need for more blood production is telegraphed to the blood forming organs immediately. In this way, blood production is speeded up and nothing may happen to cause anemia. However, when destruction continues at such a rapid pace that the individual regenerative ability is unable to meet the demand, anemia will develop in a short period of time. It is well to repeat that when blood production is speeded up because of unusual requirements in the body, then the cells are poured into the blood stream not fully matured and these immature forms give us clues as to the type of blood disease with which we are dealing. Of course, it is impossible that there may be a combination of mechanistic conditions in the causation of anemia. Sometimes these are so confused that it is difficult to be sure of the classification.

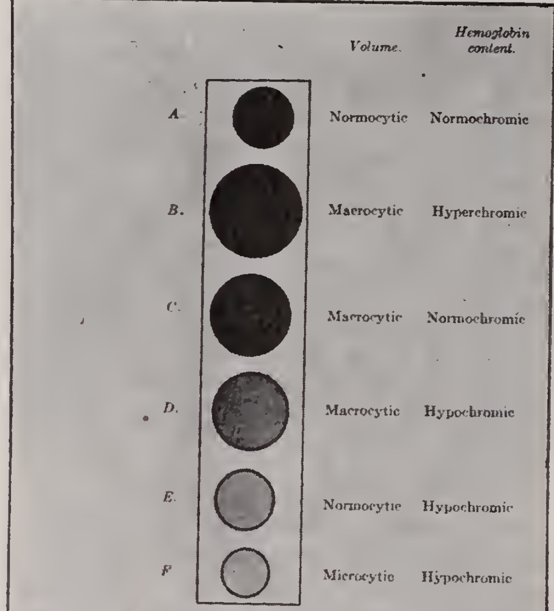


Diagram to illustrate the six groups of anemia on the basis of volume and hemoglobin content of the red cell. (Haden, J. A. M. A.)

CLASSIFICATION OF ANEMIA

At the present time, anemias in adults are classified according to the size of the red blood cells and their hemoglobin content. We have, then, a microcytic, normocytic and macrocytic anemia. In any one of these types, the hemoglobin content may be altered—low, normal, high—hence we may have a hypochromic, normochromic and hyperchromic type. Such a classification is difficult to apply in children; in the first place, there are not enough standards to go by and, secondly, response to stimulation and destruction at times is so bizarre that it is hard to differentiate. It is felt that perhaps our best classification is along physio-pathologic lines.

HYPOCHROMIC ANEMIA: According to this method, when materials are lacking and blood forming organs are below par, an anemia will develop which is called hypochromic anemia. This is usually a microcytic type and is the common form encountered in children. In the older terminology, it was usually referred to as "secondary anemia." The influencing factors mentioned previously, such as growth, infections, vitamins and lack of sufficient iron, are the main causes of this group of anemia which is characterized by low hemoglobin, usually reduced red cells and a low color index.

HYPOPLASTIC-APLASTIC ANEMIA: When blood production is interfered with either by reason of poor functional capacity or depression of the bone marrow from toxins of disease, invasion by leukocytic infiltration or perhaps endocrine deficiencies, a hypoplasia results. In severe cases, complete aplasia of the bone marrow may occur. In the former, there are few immature cells and in the latter, no immature cells. Examples of this type would be acute leukemia, severe infections, acute aplastic anemia, reticuloendotheliosis, as well as Gaucher's, Banti's and Hodgkins diseases. This group is particularly noted by a reduction or the absence of signs of regeneration; that is, by the production of few or no immature cells.

HEMOLYTIC-ERYTHROBLASTIC ANEMIA: When the destruction of red blood cells is increased by some hemolytic agent, the response of the bone marrow is to meet the occasion but, in so doing, usually produces immature or young forms. Such cases are spoken of as hemolytic-erythroblastic anemias. In the milder forms, the production rate may be able to equal the destruction rate and, other than the presence in the blood stream of an increased number of reticulocytes, nucleated red cells and young forms of white cells, no evidence of serious disease may be present. In this group, the platelets are generally increased and there is usually an excess of bilirubin in the blood due to the great destruction of red blood cells. Therefore, the icterus index is increased and jaundice can usually be detected; as a rule, the leukocytes are increased and, because the brunt of the red cell destruction is borne by the spleen, this organ enlarges. Hemolytic crises are apt to happen; these are brief periods during which there is an extremely rapid rate of destruction in progress. Changes in the structure of long bones are frequently noted on x-ray examination. It must be remembered that there are occasions when the destruction is so rapid and severe and, at the same time, the functional capacity of the bone marrow seems to be completely suppressed, that it is possible to have a very definite hypoplastic response from the bone marrow in addition to signs of hemolysis. Clinical types of this group are the congenital hemolytic jaundice, sickle cell anemia, erythroblastic (Cooley's) anemia, Von Jaksch's, and acute hemolytic anemia.

The rate of red cell formation, showing the industry of the bone marrow, is determined by the reticulocyte count, the number of nucleated red blood cells, polychromasia and basophilic stippling. The rate of red cell destruction is determined by the increase of bilirubin in the blood as measured by the icterus index, increased urobilin and spread of the fragility span.

CLASSIFICATION ACCORDING TO AGE GROUPS

Newborn Period: Sometimes it is more convenient, and certainly helpful from a clinical standpoint, to know that there are certain types of blood dyscrasias which appear at particular ages. It might be well at this time to recall some physiologic facts regarding the blood of newborn infants. At birth, the hemoglobin percentage is generally around 120, with a red cell count of over 5,000,000. In a few days, both these elements are reduced in value at a fairly uniform rate; at the end of a two-week period, the hemoglobin and red cells have fallen to a level that is considered normal, i.e., around 75% for the former and about 4,000,000 for the latter. This average may be maintained for the next several months but usually there is a slight increase in values during this period with a subsequent falling off toward the end of the first year. No completely satisfactory explanation has as yet been given to account for this phenomenon. It has been suggested that a relative anoxemia exists during foetal life, thus making necessary the larger amounts of these blood elements, and after birth, when the child's own respiratory system is established, there is no need for the excess cells which nature then removes. It has also been suggested that there is an anti-hemolytic agent derived from the mother and transferred to the foetus which is eliminated temporarily after birth until the child's own hematopoetic system becomes established and produces its own anti-hemolytic agent. This condition is spoken of as **physiologic anemia of the newborn**, and is often confused with another rather rare blood condition occurring occasionally at this age in which the infant has a severe grade of anemia at birth, the cause of which is not obvious. This is referred to as **anemia of the newborn** and requires active treatment.

Another pathologic situation which sometimes takes place at this period of life is spoken of as **erythroblastosis foetalis.** In this disease there is a rapid hemolytic action, as a rule beginning soon after birth, accompanied occasionally by intense jaundice and a rapidly developing anemia. There is some evidence of regeneration shown by the presence of nucleated red blood cells and a high reticulocyte count. In some cases, jaundice is so severe that the cortical cells of the brain (Kernicterus) may be damaged and mental defects are likely to result. Occasionally, marked edema (hydrops foetalis) is associated with this condition. It is entirely possible that the hydrops, jaundice and the anemia represent different stages of the same disease. At delivery, one can get a clue as to the diagnosis from the presence of a large, yellowish placenta, a distinctly yellow amniotic fluid and a heavy vernix caseosa.

Hemorrhage in the newborn infant is encountered fairly frequently and is usually from some mucus membrane, but it may also occur into the skin and the serous cavities. Ulcers of the gastro-intestinal tract, particularly of the duodenum, syphilis, septic conditions of mechanical injury to the adrenal glands are some of the causes of such hemorrhage. Hemorrhagic conditions of the newborn may also exist and are associated with prolonged bleeding and coagulation times. Recent investigations have shown that this condition is related to a low prothrombin content of the blood and is definitely linked up with a deficiency of vitamin K.

In Infancy and Childhood: There may be a continuation of the physiologic anemia present in the newborn period, and this is particularly true if the infant happens to be a premature. Nutritional anemia due to dietary deficiencies, especially of iron, is common. Hemolytic anemias found during infancy and the first two years of life are acute hemolytic anemia, chronic hemolytic anemia (Von Jaksch's), hemolytic jaundice, sickle cell anemia limited almost entirely to the colored race, and erythroblastic anemia (Cooley's) which seems to occur in the southern Mediterranean people—Greeks and Italians. Here also severe infections quickly affect the blood forming organs and result in anemia. Vitamin deficiencies such as those associated with rickets and scurvy frequently produce what is termed **symptomatic nutrional anemias** which are cured only by supplying the needed vitamins. In this age group, blood diseases involving the leukocytes include leukemia, infectious mononucleosis, lymphatic reactions as seen in upper respiratory infections and whooping cough, and myeloid reactions involving neutrophilic leukocytes, indicated by a shift of the Schilling index to the left.

SYMPTOMS OF ANEMIA

Anemia is usually first discovered by observation of the skin, nails and mucus membranes; pallor can frequently be noted in these areas. It must be remembered, however, that there are certain individuals who look anemic but who have normal blood counts. Dyspnoea is a frequent symptom; this may be due to a lack of oxygen or to myocardial weakness. Fatigue is common, associated with weakness, lassitude, irritability, anorexia and disturbed sleep. Fainting spells may occur. The myocardial weakness usually is the result of enlargement of the heart with a certain amount of myocarditis. Hemic murmurs may occur and poor circulation with cold extremities are common. Nutrition is usually good in the anemias of infancy but is poor in the older child. Jaundice present in the hemolytic types and purpura in the septic types. If fever is present, it is usually irregular and indefinite.

DIAGNOSTIC METHODS

The history of the case should include age, race, nationality, family, food habits and climatic conditions. The physical examination should pay particular attention to the color of the skin, mucus membranes and nails, the presence of enlarged lymph nodes, spleen and liver. The ordinary blood smear is generally sufficient in most cases; the hemoglobin estimation will give a prompt clue; and supravital staining of the blood smears with brilliant cresyl blue, followed by Wright's stain for counting of reticulocytes, is important. Bleeding and coagulation times should be done and the fragility span tested. The latter test means an estimation of the resistance of the red cells to hypotonic salt solution. Usually the red blood cells will remain unchanged when put in normal saline (0.9%); as this percentage is reduced, it is found that the normal **fragility** span begins at 0.42 and ends at 0.32. If the fragmentation of red cells begins above 0.42, there is, of course, lessened resistance; if it appears after 0.32, there is increased resistance. The icterus index is one of our best guides in estimating the amount of hemolysis or blood destruction that is going on. The Vanden Bergh test gives an idea about the type of jaundice with which we are dealing, whether obstructive or hemolytic. Splenic puncture is often resorted to in order to secure some material from that organ for particular study. The sternal biopsy is of great importance in trying to separate the various blood diseases into their exact grouping.

TREATMENT

If the child's life is not at stake, it is wise to try to make a definite diagnosis of the blood dyscrasia with which we are dealing before any treatment is instituted. However, there are many occasions when this cannot be done and emergency treatment must be administered.

Transfusions: These can be depended upon to raise the level of red cells and hemoglobin and so relieve the situation that threatens to be fatal. It must be recognized that transfusions do more than this. They frequently seem to have a direct action on the pathologic process which is causing the anemia. Raising the hemoglobin and red cell values often is sufficient to break the vicious cycle or at least carry the child over the critical period until recovery has begun. In infections, transfusion is the only means available to raise hemoglobin. Iron therapy in such conditions appears to be useless. In the hypoplastic-aplastic group, transfusions only offer a slight and temporary action; they rarely influence the eventual outcome. In the hemolytic erythroblastic group, transfusions have some influence and frequently produce definite action on the pathologic process. There is always the possibility that if transfusions are continued long enough, the patient may be kept alive until the disturbance causing the condition is eliminated and equilibrium is re-established. The dangers of transfusion are in mismatched blood, transmission of syphilis, anaphylactic shock and cardiac failure. These dangers have probably been exaggerated. Transfusions may be given intravenously, intraperitoneally, and subcutaneously, the first method being the one of choice. Repeated small transfusions in amounts approximately 10 cc. per pound body weight, and seldom exceeding 100 cc. at a time, may be given at two-day intervals. The blood should be allowed to run in very slowly.

IRON: It is believed at the present time that iron should be given in inorganic form. Maximum results are obtained by flooding the system with a large excess of available iron in a soluble form. Recent work would seem to indicate that ferrous salts are of greater value than ferric. Iron not only supplies essential material for hemoglobin formation but appears to stimulate hematopoetic activity. Iron will have no effect if hematopoetic activity is not stimulated as during the first six weeks of life. In very severe infections, iron is of little or no value and has only a decidedly diminished action in the milder infections. On the hypoplastic-aplastic group, it has no influence. If an increase of reticulocytes is not secured by iron therapy, one is justified in concluding that a definite hypoplasia exists. The value of hydrochloric acid and copper in increasing the efficacy of iron is not settled. Both should probably be used, hoping to accelerate recovery. Ferrous sulphate may be given in 6 to 10 grain doses daily. Ferric ammonium citrate must be administered in approximately 90 grain doses daily to be effective and reduced iron in doses of 40 grains daily.

LIVER THERAPY: This appears to be most efficacious in the hemolytic-erythroblastic group and apparently supplies a missing, intrinsic factor. At one time, it was thought to be of service only in pernicious anemia but our views have had to be altered because of its definite consequence in some of the severe anemias of infancy and childhood.

SPLENECTOMY: This is particularly valuable in the hemolytic-erythroblastic group, especially congenital hemolytic jaundice and splenic vein thrombosis. It has been worth while in certain cases of thrombocytopenic purpura and of temporary value in Gaucher's disease.

DIET: The well balanced diet that is generally fed to infants and young children under ordinary circumstances contains enough iron for their needs, amounting to about 15 mgms. daily. However, in anemias the diet cannot be increased to supply sufficient quantities to be effective. Vitamins A, B, C and D should be supplied in all these cases. In the anemias of rickets and scurvy, results will not be obtained unless the deficient vitamins are supplied in adequate amounts. Complete rest in bed with good general hygiene and fresh air are all helpful. Whenever it is possible, the cause of the condition should be eliminated but this is not always easy to determine.

SUMMARY

1. This paper is a brief and concise summary of blood dyscrasias during infancy and childhood, according to present understanding.
2. There is not complete agreement on the facts discussed.
3. During infancy and childhood, abnormalities of the blood are best classified along physio-pathologic lines rather than on cell size and hemoglobin concentration.
4. Classification in age groups is helpful from the clinical standpoint.
5. Treatment is considered in general terms.

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Heart Failure as a Physiological Problem*

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THE CLINICAL problem of the failing heart is separable into three divisions, relating to its diagnosis, its understanding and its treatment. Physiological knowledge is useful in all three phases, but the second, its understanding, is to all intents and purposes, entirely a problem in physiology. This branch of science has become of paramount importance to medicine as our knowledge of the mechanisms of disease has increased. Physiology was a rather academic subject as far as medicine was concerned until medicine itself acquired the type and extent of scientific knowledge that made function significant to its own development. In the field of heart disease it is particularly true that the understanding of clinical phenomena constitutes a problem inseparable from the physiology of the heart.

The topic on which I have chosen to speak to you today is a very broad one and I intend to limit myself strictly to those aspects of it which have to do with the heart itself. I do not intend to make any references to the effects of heart failure upon other organs or other functions although it must be recognized that such a separation as I propose to make is a purely artificial one and that the physiology of the heart is always in reality interrelated with respiration, fluid exchange and so forth.

I have chosen to limit the field of my discussion to phenomena bearing on the heart itself for two reasons—first, because it is necessary to choose some segment of the large subject due to limitations in time, and second, because it is with this more limited field that I have been concerned in my own studies. I should like to consider first the problem of the heart as a machine for doing work. In pumping blood around the circulatory system under pressure the heart does mechanical work. The effectiveness of any machine is measured by the proportion of the total energy which it uses that it is able to put to useful work. This fraction when expressed in per cent may be called the efficiency. The maximum efficiency of the heart as a machine, under optimal conditions, is 25 per cent. In other words one-fourth of the energy expended by the heart appears as useful work and three-fourths is dissipated as heat in the heart muscle.

From an engineering point of view the failing heart is a machine which has lost its capacity to do as much work as it once could. Speaking in medical or physiological terms the normal heart has a large reserve. That is to say, the heart is capable of doing five to ten times as much work as it actually does when the body is at rest. The difference between the maximum work capacity and the work the heart does at rest is the cardiac reserve. In practice one sees that a normal person is able to carry on severe exercise which entails great increases in cardiac work, while one of the most prominent clinical features of cardiac decompensation is the progressive decrease in the amount of physical exercise which the patient can tolerate. The exercise tolerance and the cardiac reserve are directly related quantities. As far as the heart muscle is concerned the measurement of cardiac reserve by accurate study of exercise tolerance is perhaps the best method available for estimating its functional capacity.

In an exact physiological analysis of the failing heart, which is obviously necessary if one is to understand what one sees clinically, it is necessary to know what factor or factors limit the ability of the heart to do work in that state. From a fundamental point of view there might be two changes, either of which would decrease the amount of work which the heart could do. First, in the state of failure or decompensation there might be a limitation in the total energy liberated in contraction which would correspond to a limitation, let us say, in the amount of fuel which might be supplied to a steam or gasoline engine. On the other hand, the limitation in the maximum amount of work which could be accomplished might equally well be due to a decrease in the efficiency with which the expended energy is put to work. Thus, if as was stated above, the normal heart puts one-fourth of its expended energy to work, the failing heart might put only one tenth to useful work. Thus it is obvious that a decline in the mechanical efficiency of the heart muscle as a machine might be the basis of the mechanism decompensation. Extensive studies have been made of this question and it has been found (1. 2. and 3.) that when the isolated dog's heart decompensates its ability to liberate energy does not diminish but its capacity to convert that energy to useful work declines, indicating that decreased mechanical efficiency is at the basis of this type of failure which seems to correspond rather closely to congestive failure in the human.

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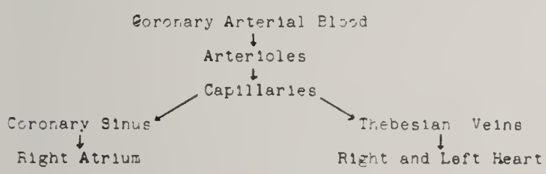
*Read before the fifty-fourth annual session of the Mid-South Postgraduate Medical Assembly, February 13-16, 1940, Memphis, Tenn.

FIGURE 1

Partition of Coronary Blood



It is of some interest in this connection that the digitalis glucosides as a group all have the ability to increase the efficiency with which the failing dog heart does work. It has been found (2.) that suitable doses of various digitalis bodies may restore the efficiency of decompensated isolated hearts to levels approaching the normal. In view of the similarity of action of the cardiac glucosides in the treatment of clinical heart failure and in the isolated mammalian heart under experimental condition it is extremely probable that the main and perhaps the sole beneficial effect of digitalis on the heart muscle consists in its ability to increase the efficiency of doing work.

A number of important clinical observations in cardiac decompensation are readily intelligible in the physiological terms just outlined. It is a matter of common observation that in congestive heart failure one of the most regular findings is cardiac enlargement. In fact, it is an axiom that in valvular disease the prognosis becomes progressively less favorable as increasing heart size is noted. As long as a heart is able to carry increased loads without dilatation it is, almost by definition, in a good state of compensation. From a physiological point of view the reasons for this are obvious. A small heart under resting conditions means a small systolic volume of residual blood. An enlarged heart on the other hand is due physiologically to an increase in the residual blood after systole, which in turn, is due to the fact that the ventricular muscle in one chamber or another, and sometime in both, is unable to do the work required to empty the chamber.

Heart muscles has the important property of liberating more energy in contraction the more the muscles fibers are stretched at the beginning of contraction, that is to say the volume of the heart, which determines the length of the ventricular fiber at the end of diastole, determines the amount of energy which will be liberated in the succeeding contraction. Consequently when the ventricles are more completely filled they liberate more energy in contraction. It is this property which allows the heart to adapt itself to varying loads in the normal state and also permits the heart to function at all when it begins to fail. Obviously if an increase in the residual blood did not result in an increase in the amount of work that could be done in concentration, the residual blood would progressively increase as soon as failure began and within a very short time the ventricles would be distended to the fatal limit. However, since the energy liberation increases with distension the heart adapts itself to a new level of filling and is able to carry on in spite of embarrassment for long periods of time in the partially decompensated state. Thus the so-called diastolic volume law which describes the relationship between initial fiber length and energy liberation is seen to account for the most important clinical aspects of the failing heart.

In our considerations up to this point I have made the tacit assumption that the changes incident to failure in the heart do not influence the nutrition of the heart muscle itself by alterations in the coronary blood flow. That assumption is quite warranted as long as one is considering only the energy liberation and efficiency at any given time. But if one desires to understand the reasons for the progressive character of clinical heart failure it is absolutely essential to take into account what is happening to the coronary blood flow as a result of the mechanical changes in failure, and one must determine the way in which these changes make decompensation a progressive phenomenon. As will be seen from the facts I shall describe and discuss next, cardiac failure is a progressive phenomenon because certain vicious cycles are set up, in which one state aggravates the next, which in turn aggravates the first.

As an introduction to this subject I should like to review briefly some fundamental facts about the coronary circulation. As will be seen in the accompanying diagram, Figure 1, coronary arterial blood passes through branching arteries into arterioles and capillaries, some of which are drained through the major cardiac veins into the coronary sinus and thence to the right atrium, but another fraction which varies between forty and fifty per cent of the total coronary blood under normal circumstances passes via the Thebesian veins and the myocardial sinusoids directly into the chambers of the right and left heart. This divided path of coronary venous blood is of no little practical importance. The flow of blood in the coronary system, as in any other vascular bed, depends upon pressure gradients. The magnitude of the coronary flow through each of the channels depends upon the pressure gradients in each situation. The larger share of the blood supplying the left ventricle emerges through the coronary sinus while the larger share of that supplying the right ventricle emerges into the chambers of the right heart via the Thebesian vessels. The pressure gradient of greatest importance to the left heart is therefore the pressure difference existing between the aorta in diastole, during which time the majority of the coronary flow through the left ventricle occurs, and the coronary sinus. Elevations in pressure in the coronary sinus impede the blood flow through the vessels of the left ventricle because they result in a decrease in the pressure gradient. The coronary flow through the right ventricle is determined primarily by the pressure gradient between the aorta and the right ventricle itself. These relations are shown schematically in Figure 2.

We have conducted experiments on the completely isolated dog heart in which it is possible to study the effects of these pressure gradients. Cannulae are placed in the superior vena cava, the pulmonary artery, the aorta and the left atrium. All other blood vessels communicating with the heart are tied off. Blood is fed into the left atrium and that ejected by the left ventricle passes either through an external circuit out of the aorta or through the coronary arteries. The coronary flow itself is collected on the venous side through a fifth cannula in the coronary sinus and as the output of the right heart which receives only Thebesian vein blood. Thus it is possible for us to control completely the pressure gradients which, as noted above, determine the coronary flow. The aortic pressure, the coronary sinus pressure and the right intraventricular pressure are completely under control. If one holds the aortic and pulmonary pressures constant but alters the coronary sinus pressure one finds that increasing the latter pressure decreases the amount of blood that emerges from the coronary sinus. In this case the percentage of the total coronary flow that emerges from the coronary sinus may decrease to a figure as low as 38. Normally between 50 and 60 per cent of the coronary blood reaches the coronary sinus. If on the other hand one holds the aortic and coronary sinus pressures constant but increases the pulmonary arterial pressure one finds that a progressively increasing proportion of the coronary blood passes through the coronary sinus. Stated conversely, the last observation means that as the pulmonary pressure increases, other factors being held constant, the Thebesian flow into the right heart falls off. This would result in impairment in the nutrition of the right ventricle. Measurements of the oxygen taken out of the coronary venous blood under these conditions corroborate this interpreta-

FIGURE 2

FACTORS INFLUENCING CORONARY BLOOD FLOW

1. Aortic Blood Pressure (primarily diastolic because most flow through left ventricle coronaries is during diastole)
2. Systemic Venous Pressure (controls pressure in coronary sinus)
3. Right Intraventricular Pressure (controls flow from right Thebesian veins)
4. Chemical and Nervous Factors Influencing Bore of Coronary Vessels

tion. One finds that when the rate of Thebesian flow is diminished the Thebesian blood becomes progressively more venous. That is, proportionately more oxygen has been removed from it, and therefore the muscle is presumably working less favorable conditions as to oxygen supply.

Thus it will be seen that the amounts and the proportions of the total coronary venous blood which will appear in the coronary sinus and the Thebesian veins respectively will be expected to depend upon two variables, the pressure gradient between the aorta and the aorta and the right heart. Experiment has shown that these quantities are the determining factors.

It is now possible to consider the influence of these facts upon the progression of heart failure. As is seen in the chart in Figure 3, and as was noted above, it is characteristic of the failing heart that there is a large volume of residual blood at the end of systole. This correlates with high atrial and venous pressures and is due to the low efficiency of doing work. If now we look into the consequences of the observed changes, we see as indicated in Figure 4 that in the case of primary left heart failure the increased residual blood in the left ventricle leads to elevations in pressure in the pulmonary circuit and eventually to increased right intraventricular pressure through the stages indicated. The increase in right intraventricular pressure itself causes, as we have seen, decreased right Thebesian flow and a consequent inadequate supply of oxygen. There results, therefore, an impairment in function of the right ventricle which aggravates the increase in right atrial pressure; this tends to result from the increased load thrown on the right ventricle. This increase in pressure in the right atrium decreases the pressure gradient for flow into the coronary sinus which carries the larger share of blood feeding the left ventricle and therefore impairment of the latter chamber as a pump occurs. This impairment will in turn decrease the capacity of the left ventricle to do work and will result in further augmentation in its residual blood and a new phase in the cycle begins.

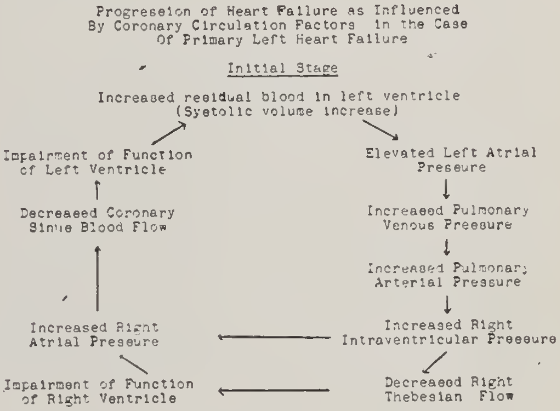
FIGURE 3

PHYSIOLOGICAL PROPERTIES OF THE NORMAL AND FAILING HEART

	Normal	*Failing*
Systolic Volume (Residual Blood)	Small	Large
Atrial Pressure	Low 6 cm. H_2O	High 15 cm. H_2O
Efficiency of Doing Work	High (20 %)	Low (as low as 1 %)

Next I should like to turn to the clinical bearings of these observations. It is a matter of common knowledge that the left ventricle can carry increased loads for long periods of time without serious embarrassment providing pressure changes in other chambers of the heart do not occur. Thus systolic blood pressures of 200 mm. Hg. can be carried for many years if uncomplicated by coronary disease or pathology in other parts of the body. But mitral valve disease has a more serious prognosis even when its effect on the work of the left ventricle is enormously less.

FIGURE 4


Progression of Heart Failure as Influenced
By Coronary Circulation Factors in the Case
Of Primary Left Heart Failure
Initial Stage
Increased residual blood in left ventricle
(Systolic volume increase)
Elevated Left Atrial Pressure
Increased Pulmonary Venous Pressure
Increased Pulmonary Arterial Pressure
Increased Right Intraventricular Pressure
Decreased Right Thebesian Flow
Impairment of Function of Right Ventricle
Increased Right Atrial Pressure
Decreased Coronary Sinus Blood Flow
Impairment of Function of Left Ventricle

Arterial hypertension can be carried by the left ventricle without physiologically serious consequences because of the arrangements of its coronary flow. A very small fraction of that flow, in our measurements less than 10 per cent, is through Thebesian channels into the left heart. Therefore until pulmonary engorgement occurs the left intraventricular pressure in diastole is not a determining factor in regulating the coronary flow through that chamber. As long as the pressures in the right heart are not elevated and the aortic pressure is maintained at a high level the left ventricular musculature will not suffer for lack of coronary blood.

The case of the right ventricle, however, is entirely different because venous pressure elevations or increases in pulmonary arterial pressure tend to restrict the coronary blood flow. In actual situations pulmonary hypertension is usually associated with general venous pressure elevation and both right and left ventricles are functionally impaired by such a change. The consequences of these pressure alterations on the function of the heart are shown schematically in Figure 5.

FIGURE 5

EFFECTS ON THE HEART OF PRESSURE CHANGES

Venous Pressure Elevation—	Progressive Impairment of Function of Both Ventricles
Pulmonary Hypertension (with systemic venous pressure rise)—	Impairment of Function of Right Ventricle
Pulmonary Hypertension—	Can be carried for years by left ventricle
Arterial Hypertension (without systemic venous pressure rise)—	Severe loss of cardiac reserve and early failure

Clinically pulmonary hypertension is seen in Ayerza's disease, or pulmonary endarteritis, and in emphysema. Both of these conditions produce a lowering of cardiac reserve out of proportion to expectations because of the fact that the pressure on the right side of the heart controls the coronary flow. Thus from a physiological point of view these diseases produce a situation very comparable to that seen in congestive heart failure when the right heart has been involved.

In this connection I should like to say a few words about the physiological justification for venesection in cases of greatly elevated systemic venous pressure. In view of what I have said it will be obvious that an elevated left atrial pressure is in itself a deleterious factor to the function of the heart. A sharp reduction in right atrial pressure might be expected to bring about at least temporary improvement in cardiac function. The experience of many clinicians over the centuries indicates the practical value of venesection under some circumstances. Its practice was properly thrown into disrepute by the indiscriminate way in which it was used. Obviously there is properly only a very limited sphere of usefulness for such a therapeutic procedure and with the development of the rapidly acting digitalis glucosides there may actually be no really important place for venesection in the modern physician's practice. I am not so much interested in the question of whether venesection should or should not be employed in medical practice as I am in pointing out that when the venous pressure is very greatly elevated one would confidently predict on physiological grounds that the state of the heart would be improved temporarily by decreasing the circulating blood volume.

These physiological observations also permit one to understand the mechanism of cardiac embarrassment when a patient who has maintained a high blood pressure for a long period of time suffers a fall in that pressure for one reason or another. Dr. Phillip Hallock has kindly permitted me to abstract a case history of a recent patient, illustrating this point. A female, age 47, complained of severe precordial pain originating in the lower substernal region with radiation upward to the left side of the neck into the shoulder and arm. The pain appeared while the patient was at rest and was persistent. The administration of morphine afforded considerable relief. The patient was transferred to the hospital a few hours later with a tentative diagnosis of acute coronary thrombosis. A careful history elicited the information that for several days prior to the acute attack the patient experienced abdominal cramps and had noted that her stools were tarry black in appearance. The past history showed that the patient had had a high grade hypertension for eight years, the blood pressure being about 210/110 mm. Hg. For the past four years the patient had had occasional transient attacks of angina pectoris brought on by exertion and relieved by rest.

Clinical examination showed at the time of admission—blood pressure 130/80, pulse 100, temperature 100.0°F. The heart rate was regular, a systolic murmur was noted over the aortic area. The heart was found to be somewhat enlarged to the left. The laboratory findings showed the presence of four-plus occult blood by the Guaiac test and a low red blood cell count of 2,200,000 per cu. mm. There was no electrocardiographic evidence of coronary thrombosis. X-ray examination disclosed a duodenal ulcer.

The patient was given repeated blood transfusions and after the first transfusion the blood pressure rose and the pain subsided. The diagnosis of bleeding duodenal ulcer with consequent depression in blood pressure and anemia was made. The anginal pain was logically ascribed to an inadequate supply of oxygen to the heart muscle. Two probably equally important factors contributed to the cardiac anoxia, namely a decreased coronary blood flow and a decreased oxygen carrying power of the blood. Both of these factors were corrected by the transfusion of whole blood.

This case illustrates the dependence of the function of the heart upon its oxygen supply, which can be diminished either by altering pressure factors or the oxygen carrying power of the blood. Anginal symptoms do not always occur in cardiac anoxia, in fact, they rarely occur when the decrease in oxygen supply is gradual. Inadequate oxygen supply can produce intense angina without acute coronary disease however, if the more general changes are severe enough. But the general signs of heart failure are more common with reduction in hypertension. It is a relatively common finding in medical practice to see persons with long standing hypertension develop severe loss of cardiac reserve coincident with a decrease in the blood pressure to more normal values for any reason whatsoever.

It will be seen that the failing heart is a muscular machine in which the amount of energy needed to do its work has increased and that its ability to liberate energy depends upon its oxygen supply. The oxygen supply is in turn determined by the coronary blood flow which again depends directly upon pressure factors. It happens, unfortunately, that the pressure elevations which occur in heart failure are those which tend in themselves to diminish the coronary blood flow and therefore the nutrition of the heart. Consequently, these factors arrange themselves in a vicious cycle and therefore cardiac decompensation tends to be a progressive phenomenon.

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Intestinal Obstruction*

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IN THE BROAD SENSE, any interference with the progression of the intestinal current constitutes obstruction of the intestine regardless of the cause. In common usage, "acute intestinal obstruction" is used in the restricted sense to denote obstruction due to mechanical causes. This discussion will be limited to acute mechanical intestinal obstruction.

While the mortality rates from acute appendicitis and ruptured peptic ulcer have fallen to a fraction of what they were thirty-five or forty years ago, the mortality from acute intestinal obstruction remains between 40 and 60 per cent. In fact, the mortality is very little lower than it was when Fitz and Seen did their pioneer work some forty years ago, when medical treatment for forty-eight hours was the accepted rule. A large number of these patients may be saved by prompt diagnosis and proper treatment. Any mortality over 10 or 12 per cent can be charged only to delay. In a recent series of cases reviewed from the records of the Charity Hospital at New Orleans, the mortality rate for cases of twenty-four hours' duration was 33 per cent; for forty-eight hours, the rate was 50 per cent; and for over seventy-two hours, the rate was 83 per cent. Roughly stated, the mortality rises one per cent with each hour.

The responsibility for this appaling mortality rests on several factors: first, upon the patient who resorts to purgation—the laity's cure-all. Receiving no relief and having wasted valuable time, the patient finally consults a medical man, who may prolong the delay which is so directly responsible for this distressing mortality by furthering the purging or quieting the cries with a deceiving dose of morphia. Often a productive enema gives the attendant a false sense of security. The expulsion of gas and feces can be expected unless there is a complete low obstruction, for the bowel distal to the obstruction is anatomically and physiologically normal. A certain number of these patients is lost because of inadequate preparation. The treatment is operation, but not operation before replacement of lost salts and fluids and decompression of the proximal gastrointestinal tract. These measures can often convert a poor operative risk into a fair risk. Another factor, too, is ill-advised surgical procedures. Often the surgeon attempts to do the elective operation rather than a simple palliative one which would tide the patient over until his condition could be improved. It is better by far to have a live patient with an enterostomy instead of a dead one with a resection and anastomosis. The teaching of the classical textbook picture of fecal vomiting, abdominal distention and fast pulse may be a contributing factor. These are actually signs of the terminal stage.

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The old classification of acute obstruction as mechanical and functional or paralytic is not valueless, but a more rational one is simple obstruction and strangulation. In strangulation, we are dealing not only with a blocked lumen, as in simple obstruction, but also with vascular changes in an isolated segment of bowel. For purposes of discussion, simple obstruction may be subdivided into (a) high small bowel obstruction; (b) low small bowel obstruction; and (c) large gut obstruction. Strangulation occurs far more frequently in the small bowel, being caused largely by adhesions and herniae. Volvulus is the most common type of strangulation obstruction in the large bowel, but is a comparatively infrequent cause of obstruction.

In all reported series of cases, herniae and adhesions are the two most frequent causes. In the cases from the Charity Hospital at New Orleans for the past several years, adhesions were responsible for 53.3 per cent of the cases and herniae for 23.9 per cent. Of the cases caused by adhesions, 81 per cent had had previous operations. The two next most frequent causes were intussusception and volvulus, with new growths and foreign bodies slightly less frequent.

The fate of any patient with acute intestinal obstruction depends more on early diagnosis and treatment than on anything else. The importance of the time factor has already been stressed. The changes which occur in obstruction are cumulative and every hour operation is postponed diminishes the chance of a successful outcome. An accurate diagnosis as to the cause of the obstruction is desirable, but, as Arthur Curtis remarks, "It is better to have a less accurate diagnosis and a more favorable prognosis. No early cases and few late ones show the so-called classical symptoms which Sampson Handley calls 'the signs of lost opportunity.' "

It is rare that a properly done exploratory incision does much harm. From the history, one may get a clue as to the cause of the obstruction. An abdomen which bears the scars of previous operations certainly gives cause to suspect that adhesions may be the basis of trouble; or, an elderly patient with increasing difficulty of defecation leads to a suspicion of a new growth in the large bowel.

The colicky, griping abdominal pains are of great diagnostic importance for they occur early. At first they have a characteristic rhythm, but later as the period of increased intestinal activity has passed, there is a constant dull ache which results from distention and beginning bowel paralysis.

Vomiting is not as constant a symptom as is pain, but persistent vomiting which fails to relieve pain is of great diagnostic importance. In small bowel obstruction, vomiting occurs from the first as a reflex phenomenon; later because of hypersecretion of the bowel. As a rule, the higher the obstruction, the earlier and more persistent is the vomiting. True vomiting of feces never occurs and the regurgitation of foul small-bowel contents is of importance only as a prognostic sign of impending death. In large bowel obstruction, vomiting may occur only late or not at all.

Constipation is a most unreliable symptom. The bowels may move a few hours before, or even after, an urgent strangulation; on the other hand, the bowels may not move for a week and yet there be no obstruction. In intussusception and mesenteric thrombosis, watery, blood-stained stools are likely to be the rule. As already pointed out, an enema will almost always be returned with some fecal particles.

Of all physical signs, distention is the most consistent and conspicuous, but it is a late sign except in volvulus. Early, when the diagnosis should be made, distention is absent. In very high obstruction it is never present. Occasionally, in very thin subjects, distended individual coils may be seen along with visible peristalsis. The palpation of a mass in the abdomen or the discovery of a tumor on rectal examination is useful in determining the cause rather than in making the diagnosis of obstruction.

Auscultation with the stethoscope is an important step in the diagnosis of any acute abdomen and especially important in obstruction. The exaggerated sounds of increased intestinal activity of mechanical obstruction are in distinct contrast to the quiet abdomen of peritonitis. Often the site of obstruction can be estimated by the location of exaggerated sounds occurring at the height of a colicky pain.

Early there is no rise in the temperature. As dehydration develops or if strangulation is present the temperature is slightly elevated. Strangulation is often followed immediately by a state of shock; the blood pressure fluctuates—the patient is obviously very ill.

Of the laboratory procedures, the most valuable are x-ray studies and blood chemistry. The latter are useful in determining the condition of the patient rather than in making the diagnosis. The x-ray plate of the abdomen has recently become an important aid in establishing the diagnosis and in localizing the lesion. An x-ray film taken with the patient supine indicates the degree of intestinal distention and localization of distended coils. If the distention involves only the colon, the diagnosis of obstruction of the colon is practically established. In cases of volvulus of the sigmoid, a markedly distended loop of colon without distention of the small bowel is seen. If the small bowel is distended and there is gas in the colon, in all likelihood there is a partial small bowel obstruction; complete absence of gas in the colon indicates complete obstruction of the small bowel. X-ray studies made after the introduction of barium are useful, but are rarely indicated in cases of acute obstruction. Localization is less accurate in small bowel obstruction than in large bowel obstruction, but the location of distended coils can usually enable one to tell if the obstruction is in upper, middle, or lower small bowel. A film taken with the patient sitting or standing erect shows gas over fluid, so-called "fluid levels," but gives less information than the plate taken supine.

In simple acute obstruction, the bowel above the obstruction may be distended until it is of paper-like thinness; in chronic obstruction, it is thickened by the work hypertrophy of the circular muscle. The distention may progress until areas of hemorrhage develop and finally actual areas of necrosis may occur on the antimesenteric border where the circulation is poorest. It is not necessary to have actual rupture for peritonitis to develop, for the thinned-out, devitalized bowel permits the passage of bacteria. These changes are seen usually in the large bowel where the patient ileocolic sphincter acts to make the simple obstruction a closed loop type. The gas causing the distention comes from swallowed air (70 per cent), from local putrefaction, and from interchange from the blood. In strangulation the local changes are nearly the same, but develop more rapidly and therefore there is less distention.

Aside from the local changes in the bowel, there are important changes in the physiology of the body, as is suggested by the clinical picture. In high small-bowel obstruction the changes responsible are: (1) dehydration; (2) loss of inorganic electrolytes from the plasma with other physical and chemical blood changes; and (3) failure of renal function. The extreme loss of water is due to profuse vomiting and complete failure of absorption of intestinal secretions which amount to about 5000 cc. daily. The combined digestive juices contain an ionic content approximately like that of blood plasma and their loss by the body practically represents so much plasma depletion. It is this loss of electrolytes and fluid which leads to alkalosis and increased blood concentration, which in turn results in renal failure. These changes are manifest in the blood chemistry by a rise in non-protein nitrogen, urea nitrogen, and a lowering of chlorides and increase of carbon dioxide combining power.

The difference in the clinical course of high obstruction and low obstruction suggests that there are different factors at work. The loss of fluids and electrolytes is not as important in low obstruction but the factor of distention assumes a major role. With the distention above the obstruction, changes occur in the mucosa which lead to the absorption of poisonous substances of bacterial origin which are not absorbed by normal mucosa. It has been often observed that patients may die suddenly in a state of shock soon after a successful operation. This is probably due to a sudden release of tension which opens up compressed veins and capillaries in the gut wall, which, through lack of tone become engorged and a loss of circulating blood occurs sufficient to prove fatal to an already enfeebled patient. This sudden release also permits the rapid absorption of toxic materials from the bowel lumen.

In large bowel obstruction, dehydration and blood changes are not as prominent and though extreme distention may occur, the colon tolerates it better. There is less danger in the sudden decompression of large bowel obstruction.

In strangulation the local changes are more urgent and usually there is no time for the physiological changes of dehydration, electrolyte depletion, renal dysfunction and distention to contribute much, though they may play a part in the fatal issue. In internal strangulation, necrosis with resulting peritonitis is often the immediate cause of death; however, often patients die before either peritonitis or gangrene occurs. It seems in these cases that the mechanism is shock resulting from extravasation of blood into the intestinal lumen and into the peritoneal cavity.

The treatment of intestinal obstruction should aim first, to relieve the obstruction and restore function before changes occur in the bowel, and second, to correct the toxemia. In early simple obstruction, the operation of election may be carried out; that is, the obstruction may be released; in late simple obstruction, this may be associated with too much risk and simple decompression may be safer. The danger of too rapid decompression has been pointed out. In strangulation, freeing of the obstructive mechanisn is usually imperative.

Toxemia can be combatted by the replacement of fluid and salts. Hartmann's solution with glucose is probably the best, but saline and glucose will suffice. Blood transfusion will replace the blood loss in cases of strangulation.

Decompression can be accomplished by the use of the indwelling duodenal tube as popularized by Wangensteen, or by the Miller-Abbott tube. This tube is especially useful as it decompresses more of the bowel proximal to the obstruction and at the same time permits the absorption of fluids and secretions by the upper bowel. Improvement in a patient's condition following decompression, transfusion, and replacement of fluids and salts is to be expected and should not lead one into postponing operation, for the treatment of acute intestinal obstruction is primarily operation, promptly done.

DISCUSSION

Lawrence L. Beall, (Cleveland): I think Dr. Sandifer should be congratulated on the discussion of such a complex subject in such a competent manner. To summarize, he has emphasized the dictum: Early diagnosis and early operation.

Since adhesions constitute one of the two most frequent causes of intestinal obstruction that we see, the treatment of these cases of adhesive or plastic peritonitis deserve our special attention.

Reichert and others have shown that if these adhesions are freed by the electrosurgical knife set for slow coagulation they will not reform, and there will be no retraction of the mesentery, whereas if the scissors or scalpel is used there are likely to be more adhesions formed later than was present formerly.

In regard to the laboratory aids in diagnosis and treatment Dr. Sandifer has mentioned the x-ray will show abnormal accumulation of gas and fluid with dilated coils of intestine. The so-called "step-ladder" or "herringbone" appearance whether taken in the horizontal or vertical planes. The use of contrast media is definitely contraindicated.

The marked loss in blood plasma has recently been brought to our attention by Gendel and Fine, who found that with obstruction and distention the plasma loss is 36% within four to six hours, and 55% in 24 hours. This is equivalent to 3% of the B. W. A loss of 2.3% of the B. W. in terms of plasma is sufficient to cause death.

When strangulation is added to obstruction and distention a 48% loss in plasma occurs within 4 hours. Thus it is seen that next to effective decompression, whether by enterostomy or g. d. drainage, the replacement plasma is as essential as any other therapeutic measure. The use of whole blood in current medical practice is inferior to an equivalent volume of plasma as the red cells increase the viscosity of the blood which is already too high. Whether whole blood or plasma is needed the hematocrit should be the determining factor. And since the fall in plasma volume is demonstrable long before the B. P. reaches a shock level, it is of vital importance in the management of these cases.

To restore a 36% loss of plasma volume in a man weighing 70 kgms. would be equivalent to 1 litre in plasma and would require about 2 litres of whole blood to correct the blood volume changes.

At best the mortality rate of internal obstruction is high and still challenges the ingenuity of internes and surgeons alike.

Diagnosis of Dyspepsias*

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MY PAPER today is entitled "Diagnosis of Dyspepsias," or to use terminology more common to the public, "Diagnosis of Indigestion." Dyspepsias is a very broad term and it may be caused by practically any organ in the abdominal cavity. I shall discuss only a few of the most common causes of dyspepsia, as the principle purpose of this paper is to present the procedure employed in diagnosis. The first step should be a thorough history and physical examination. The second step should be laboratory examination. The third step should be x-rays.

There should be a detailed history in reference to the pain. Essential points are the character of the pain, its location, relation to meals, how long after eating before it begins, if it is relieved by soda or certain foods, and if it is seasonal. Peptic ulcer, gastric carcinoma, chronic cholecystitis, and chronic appendicitis, are some of the most common causes of dyspepsias. Some of their differential points are as follows:

Peptic ulcer is most commonly seen in young adults while gastric carcinoma is usually in elderly people. Chronic cholecystitis occurs in middle-age and chronic appendicitis may occur at any age.

The pain of peptic ulcer is usually localized and associated with soreness, while the pain of carcinoma is often severe and lancinating. There may be tenderness over the gall bladder. The pain of appendicitis is irregular and there may be tenderness in the right lower quadrant of the abdomen. The pain of peptic ulcer is relieved by soda or by certain foods. In carcinoma there is no relief by soda or by certains foods. In peptic ulcer there are seasonal intermissions of pain. This is a rather constant finding and when it is present a diagnosis of peptic ulcer can practically always be made with certainty. In gastric carcinoma there are no intermissions of pain. In cholecystitis and appendicitis the pain is irregular. There may or may not be any intermissions but if there are intermissions, they are irregular.

Vomiting may or may not occur in peptic ulcer. Occult blood is constant in the stools of carcinoma. In cholecystitis and in appendicitis there is no occult blood in the stools.

There is usually some emaciation in peptic ulcer. In gastric carcinoma there is a progressive loss of weight with cachexia. There is very little disability in cholecystitis and in appendicitis.

Peptic ulcer is of long duration. In gastric carcinoma the patient is usually dead at the end of one to one and one-half years. The duration is long in cholecystitis and in appendicitis.

There is rarely a tumor present in peptic ulcer. A tumor is usually present in gastric carcinoma. In cholecystitis and in appendicitis there is no tumor present.

In peptic ulcer there is usually hyperacidity or a total absence. Acidity is usually normal in cholecystitis and appendicitis.

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The most important laboratory examinations in dyspepsias are gastric analysis and stool examinations. The degree of acidity, the amount of retention, and the presence of blood, are the most important findings in the gastric analysis. The stool should be tested for occult blood.

After the history, physical examination, and laboratory work have been done, the next suspicion is that the gall bladder is the cause of the dyspepsia, and should be x-rayed. If a barium meal is given first, it is very likely to overshadow the gall bladder. After the gall bladder has been x-rayed, the barium meal is given, its progress being observed by the fluoroscope through the esophagus and stomach. X-rays are then made of the stomach and duodenum in the posterior-anterior, oblique, and lateral views. Six hours later another picture is made to determine the emptying time of the stomach and the progress of the meal. At this time, the meal has usually entered the cecum. X-rays of the colon may be made at intervals after this as the meal progresses around or a barium enema may be given which is probably preferable.

The x-ray examination is very important in differentiating these conditions. In the hands of a competent radiologist a definite diagnosis can usually be made. However, all other findings should be taken into consideration in addition to the x-ray examination, for the x-ray is not faultless.

SUMMARY

A discussion has been made of the importance of a systematic workup in the diagnosis of dyspepsias with special emphasis on x-ray examination.

Diabetes In Rural Practice*

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DIABETUS MELLITUS is a peculiar disease in that there is no definite and constant pathology associated with it—but rather an upset in the metabolism of carbohydrate which is in the last analysis a functional disorder. Diabetes is peculiar in that there is no known factor that brings on the syndrome. More interesting still is the fact that there is no cure for this malady, but can be, under a well planned regime of therapy along with the cooperation of the patient, completely controlled. This malady is of interest, too, because more than any other disease it requires complete cooperation of the patient, not for one day, week, or month but for the remainder of his life. It is a disease that must be fully explained to the patient, who must in turn be taught to recognize the danger signals as well as what to do to combat these dangers. Diabetes is a good disease for a great many reasons; first of all one is dealing with facts—carbohydrates in the diet can be calculated with reasonable accuracy, and the excretion of sugar in the urine balanced against it, the blood sugar is normal or abnormal, the carbon dioxide combining power is normal, high, or low. If the patient does not do well there is a reason.

Diabetes was well known to the ancients, although not clearly distinguished by them from diabetes insipidus. Its name implies references to a characteristic clinical symptom; namely, polyuria. The saccharine taste of diabetic patients was described by Thomas Willie (1621-1675). The reducing power of the urine and the attributing of this to a fermentable sugar were the contributions of Dobson, 1775. The polarimetric method for determining sugar was discovered by Biot, 1883 and the first quantitative copper reduction method, that of Fehling, came in 1850.

Modern conceptions of the disease are

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mainly based on the discovery of the glycogen function of the liver by Claude Bernard, 1848, the discovery that diabetes is provoked in dogs and certain other animals by ablation of the pancreas by Von Mehring and Minkowski 1889, the important studies on acidosis of the Naunyn school, the elucidation of the metabolism of protein, fat and carbohydrates by C. Voit and his pupils among whom are Rubner, Magnus, Levy, F. Muller, Graham, Lusk, and the discovery of insulin by Banting, Best, Collip, and Macleod.

Roughly, about two per cent of the entire population have diabetes. The incidence in the United States is greater than that in England or the continent of Europe, and much greater than that in Japan. The age incidence varies with statistics from different sources, but generally it is seen most common in the fifth and sixth decades, though it occurs in young adults and children. Diabetes appears to be hereditary - - children from diabetics are often found with it.

Signs and Symptoms

In adult life the onset of diabetes is usually insidious; in youth the full clinical picture may develop suddenly so that one can date the onset of the disease to a certain day. Illustrative of the latter type of onset is the case of a girl seven years old, whose urine was being examined every day because of chronic pyelonephritis. Numerous urinalyses had not revealed sugar, and on the morning of the day diabetic symptoms began reduction of copper was not obtained. Bed wetting and polyuria appeared that night and the urine of the following morning was strongly reducing. The subsequent course was typically that of diabetes of potential severity so that two years later, despite rigid treatment and a diet containing 100 grams of carbohydrates, control required an insulin dose of 24 units.

The more typical manifestations of diabetes are polyuria, polydipsia, polyphogia, loss of weight and strength, glycosuria, and hyperglycemia. Other less constant abnormalities are pruritus, disturbance of vision, xanthosis, xanthomotosis and hyperlipemia. Pruritus, particularly pruritus of the genital organs of women is often an extreme annoyance and, in cases in which its cause has not been recognized, has led to suicide and insanity. It resists all treatment not directed at the metabolic abnormality but responds promptly to local remedies or disappears spontaneously as soon as glycosuria is controlled. The more usual disturbance of vision is due to change in the refractive media of the eyes, particularly the lens, the results of fluctuation of the glucose of the tissue fluids. Such disturbances are most common during the period of initial treatment with diet and insulin, when the excess of sugar is being rapidly removed, but they also occur in cases of diabetes of acute onset when sugar is rapidly accumulating. In either case they are transitory and it is of practical importance to postpone refraction of the eyes for the fitting of glasses, as a readjustment occurs spontaneously. Xanthosis is a yellowish coloring of the skin due to the accumulation of the carotinoid pigments of vegetable food. It is seen in other conditions but is likely to be more pronounced in diabetes. It is not harmful but when strikingly developed may give rise to the erroneous suspicion of jaundice. In contrast to jaundice the sclerae are rarely discolored. Slight hyperemia of the cheeks developing on a mild degree of xanthosis gives a "peaches and cream" complexion which is often misinterpreted as the bloom of health. Xanthomas, including those of the eyelids, are not peculiar to diabetes. They develop in association with hyperlipemia. Often time multiple furunculosis and carbuncles are found in the diabetic. In any case of multiple or continued furunculosis one should be sure that patient is not a diabetic before instituting local treatment.

Course

The clinical course of diabetes mellitus is by no means constant, but for practical purposes may be divided into two types, the potentially mild and potentially severe. The diabetes of young persons usually falls in the former category: that of patients who are past the third decade in the latter, but exceptions and transitions occur so that such classification cannot be made on the basis of age alone. However, in the era before the discovery of insulin in 1922 the cases of children and young adults advanced rapidly in severity and usually proved fatal in from two to four years despite most careful treatment for the diabetes, whereas the large majority of cases of older individuals developed insidiously and progressed with chronicity. Even with indifferent treatment serious consequences were escaped in some of these chronic cases for ten, twenty or thirty years. The greatest contribution of insulin is to the diabetic children, formerly doomed to early death but now alive and strong, presumably for a normal lifetime.

Diagnosis: Diabetes mellitus, like many other diseases, presents diagnostic difficulties —positive laboratory tests, sugar in the urine, abnormal carbondioxide combining power of blood, or even an increase of the sugar content of the blood does not necessarily mean diabetes. The patient may have ingested carbohydrates, which may increase the blood sugar, even to the point at which the kidneys throw off sugar in the urine. The carbondioxide content of the blood is altered in any acidosis which may not be at all related to diabetes. Many obese patients have sugar in the urine who have no trace of diabetes. There are other patients who have pituitary gland disturbances which influence the pancreas. Joslin, in 1935, made the following statement: "The pituitary exerts a governing action upon the pancreas, through the blood sugar hormone, the contra-insulin hormone, of the anterior lobe. This acts by the way of the sympathetic nervous system upon the suprarenals and through them on the liver." In certain thyroid gland disturbances when the metabolism is increased the pancreas has to manufacture more insulin in order to metabolize the glycogen that is liberated by the liver, consequently sugar is often found in the urine along with hyperglycemia. The adrenal glands, as we all know, play a large part in the rate of converting the liver, and to a certain extent the muscle, glycogen into sugar in time of fear or anxiety. Then in alcoholic cirrhosis of the liver, when the liver cells have been altered by the continuous excess of alcohol, the liver cells are unable to maintain their normal content of glycogen and as a result glucose is produced, hence hyperglycemia. Many other conditions could be named that alter the sugar content of the blood and urine, but this paper is to be limited to the management of diabetes in rural practice, with, as we all know, very limited laboratory facilities. The rural practitioner who first sees the diabetic and who does not have access to the valuable, complicated, and expensive laboratory studies that make the situation ideal, such as diurnal glucose tolerance tests, carbondioxide combining power of the blood, salt, N.P.N., frequent blood sugar and basal metabolism determinations, then must make his diagnosis of diabetes by correlating the signs and symptoms heretofore mentioned with simple repeated urinalyses, his patient under close observation in order to know when the patient has ingested carbohydrates or when the urine is from a fasting patient. Oftentimes he can arrive at an accurate diagnosis as early as the doctor who uses the more refined and technical procedures, which necessarily require time because one test interferes with another. The general practitioner has an advantage over the specialist in that as a rule he is personally acquainted with the environment as well as the habits of the patients. Then, too, when a diabetic, after being stabilized in an institution, goes home to those not skilled in dietetics, he is more than likely to require a change in the dose of insulin. With a history of polyuria, polydipsia, etc., plus sugar in the urine or repeated examinations, both after fasting and after ingestation of carbohydrates one can, as a rule, safely make diagnosis of diabetes, provided the patient is not obese. (The writer saw a child fifteen years old with a textbook picture of appendicitis, leukocytosis, temperature 100, nausea, and rigidity in the lower right quadrant; but with sugar in the urine which led to the diganosis of diabetes.)

The determination of sugar in the urine is very simple and requires only a reagent bottle of Benedict's solution (or Fehlings A and B solutions which must be separate and added in equal parts at the time of the test), a test tube and some heating device, alcohol lamp, or an electrical hotpoint, or even a coal or wood heater. Benedict's solution is better because it gives one an idea of the percentage of sugar as can readily be seen by the color changes. When one wishes to know the total amount of sugar excreted in 24 hours, he needs only to measure the volume of the urinary output, and then take one cc. of Benedict's quantitative solution in a clean test tube, and with a simple graduated pipette he can titrate the solution with the urine by heating between the addition of the urine drops until the blue color turns white. Read the volume of urine used to produce the color change and simply calculate the percentage of sugar in the urine. (Simple rule--when a pipette graduated in hundredths is used divide 0.2 by the amount of urine expressed in cubic centimeters. Example: If .20 cc. of urine is used then .2 divided .20 equal 1 or 1% sugar. When the percentage of the sugar is high, 3 or 4%, dilute the urine with water at 10 times and calculate in the same manner and multiply the quotient by the dilution. Obviously the amount of sugar excreted by the urine gives one an idea of how much insulin the patient needs.

Treatments

There are two important factors in the treatment of diabetes: namely, diet and insulin.

Diet: Sweeney, of Dallas, Texas, has demonstrated that diets with high carbohydrate content are followed by lower blood sugar levels, thus increasing sugar tolerance, whereas diets with high fat content cause hyperglycemia and diminished sugar tolerance. If carbohydrates stimulate insulogenesis it would increase the output from a poorly functioning pancreas of the diabetic, unless all the islet cells have been destroyed by a previous disease of the pancreas, when it is so obvious that there could be no increase in function. In other words a high carbohydrate diet will postpone the acidosis (ketosis) and coma from which depancreatized animals die.

Best, who collaborated with Banting in the discovery of insulin and who succeeded Macleod as professor of physiology in the University of Toronto, seems in accord that the ingestion of carbohydrates stimulate the insulogenic apparatus. In a recent address Best said: "The evidence seems overwhelming that a rise in sugar content of the blood increases the output of insulin."

Recent results obtained from high carbohydrate, low calorie diet in diabetes, reported by Sansum, Geyelin, Rabinowitch, seems to show that the insulogenic function of the pancreas may be at least partially restored by resorting to the use of quantities of carbohydrate not dreamed of by clinicians prior to the insulin era in the treatment of diabetes. Certainly such diets increase insulin efficiency so that, according to the experience of a number of clinicians, one unit of insulin will in many cases metabolize two or three times as much carbohydrate on the new diabetic diets as when the same patient was on the low carbohydrate-high fat diet.

High carbohydrate-low fat meals are more rapidly digested, absorbed and metabolized, than those of high fat content when the stomach empties more slowly, but one must give a patient on a high carbohydrate-low fat diet a glass of buttermilk, or skimmed milk, an orange, or a banana, or an apple, or bread and honey three hours after breakfast, after the noon meal and at bed time because the stomach empties more rapidly. On such a dietary regime, blood sugar levels are lowered, the severity of the disease is ameliorated, the danger from complications such as acidosis, arteriosclerosis and gangrene are decreased. Arteriosclerosis occurs more often in hyperlipemia than with normal fat in the blood. The difficulty of diets for patients has been the conversion of household units of measure to the scale commonly used by physicians, i.e., grams and centimeters. At present there are food lists available which give both units of measure as well as the carbohydrate, fat, and protein content of each food together with the calories liberated in the digestion of the food. Also there is furnished free of charge a sort of slide-rule on which one can readily calculate the dietary requirements for any individual, using the patient's weight, age, sex, height, and activity as a basis. This apparatus is designed to arrive at the dietary requirements according to the influencing factors as laid down by Dr. Joslin. It requires about 15 minutes to figure the dietary requirements of any individual. A diabetic is kept a little below his normal weight if possible for the best results. After the caloric, mineral, and vitamin requirements of the diet have been figured out by the physician and explained to the patient one must then take up the question of insulin. The best plan I have seen is to take the patient in your laboratory and demonstrate the Benedict sugar test of the urine, using first a urine that is negative for sugar, then one that has a small amount of sugar, and finally one that has much sugar in it. (One can simply add dextrose to sample of urine for teaching purposes to produce the color changes). After the patient has seen you make two or three simple tests demonstrating the different colors after boiling, tell him to test his own urine one hour after each meal and if the resulting color is red take 15 units of insulin; if yellow take 10 units; if green take 5 units and if it is blue take no insulin. The patient will inquire about the equipment he is to use. Give him a five-cent test tube on which you have filed a mark, measuring exactly one cubic centimeter, and a plain medicine dropper. Tell him to fill the test tube to the filed mark with the "blue solution" and add 8 drops of his freshly voided urine by means of the medicine dropper. Set the tube in a granite or tin cup partially filled with water on his ordinary cook stove and boil it for three minutes, and then carefully observe the color and take the insulin according to the arbitrary you gave him.

There are minute urinalysis sets for sale for those who are able to buy them, but the above described method will serve the purpose, for any patient has some sort of heating system in his kitchen. Obviously the doctor must have the patient demonstrate his technique for urinalyses before he leaves the office, and you must check his findings from time to time. Check his "blue solution" against one that is known to be fresh from time to time. This all applies to regular insulin.

There are now on the market two other insulin preparations—zinc insulin and hexamine insulin, both of which lower the blood sugar more slowly and keep it down for a longer period of time. Dr. Elliot P. Joslin, in an article written in January, 1939, contends that protamine zinc insulin is the most outstanding advance in the treatment of diabetics since the discovery of insulin in 1922. Quote, "The simplicity of treatment with protamine zinc insulin as compared with regular insulin is obvious to all. Furthermore, it is safer because reactions on the average are less frequent and less severe, and as a rule, are accompanied with a warning which the observant patient can recognize."

Regular insulin acts for 8 hours or less and two doses would only protect the patient for two-thirds of the day. With protamine zinc insulin the duration of action, and consequently the protection are 24 or more hours. The difference may seem slight at first thought but when one considers the duration of life of the diabetic today, which is certainly 12 years for all and for the average new case more likely 20 years, it is evident that for 4 to 7 years the diabetic treated with regular insulin would be out of control, and it is with the uncontrolled diabetic with whom we know that complications are more frequent.

The diabetic taking protamine zinc insulin stores glycogen in his liver, muscles, and skin, so that he resembles a normal individual. He begins his day with a normal blood sugar and without the handicap of a mild acidosis which took place to a greater or less extent during the night when his diabetes was controlled by regular insulin. Protamine zinc insulin does not deteriorate as was first thought. The potency of the protamine zinc insulin is in the precipitate and one must take great pains to rotate the vial so that the particles are uniformly diffused in the bottle before it is injected into the patient.

The technique of administering protamine zinc is simple providing one will bear in mind that its action is slow and persistent for 24 hours and more. One must remember that diet must be adjusted to this slow action, which means that no one large meal should be eaten but rather 3 average meals, also a provision must be made for exercise. With protamine zinc insulin the diabetic is so nearly normal that with exercise he burns up his carbohydrates to burn. One can lessen regular insulin by a few units if exercise is contemplated, but it does no good to lessen protamine zinc insulin by a few units because the effect of its reduction would not be manifest for many hours. Consequently instead of lowering protamine zinc insulin by a few units for adjustments to exercise give extra carbohydrates. Exercise favors the combustion of carbohydrates with insulin, when either endogenous or exogenous insulin is available and therefore this also must be borne in mind. "Most reactions are due to the neglect of this feature. The patient is doing so well he is burning up his carbohydrates so entirely that when he exercises and demands a little more glycogen there is none available and the blood sugar drops to an insulin reaction level."

When using protamine zinc insulin, use Benedict's test every 24 hours instead of one after each meal as was described above, and use protamine zinc insulin on the same sliding scale. It is a simple matter to teach the patient how to sterilize his syringe and needle and to measure his dosage. Insulin reactions occur with protamine zinc insulin, but as a rule they come on more gradually and are less severe. They are distinctive because of two symptoms not met with in the course of reactions with regular insulin: namely, nausea, and headache. It is particularly unfortunate that nausea is a symptom because that is also a symptom of diabetic coma, and it makes the diagnosis between coma and protamine zinc insulin reaction more difficult, and at the same time between these two and appendicitis. The doctor doing rural practice often is called in to see a diabetic who is in a coma. He has no facilities for blood sugar determination and the urinalysis may be misleading (one should always use the second voided specimen of urine). Distinction of the coma of diabetic acidosis from the coma of hypoglycemia can be made, usually, on the signs evident on general examination. In acidosis the skin is dry, the cheeks are rosy, the lips are red, the breathing is hyperpneic (Kussmaul type), the breath smells strongly of acetone, the pulse is small and weak, and the eyeballs are soft. In hypoglycemia the skin is moist and pale, the lips are cyanotic, the breath is apneic, acetone is not detected, the pulse is full or even bounding, and the eyeballs are normal in consistency. It sometimes happens that a patient in diabetic coma is overtreated with insulin and passes out of this coma, through a short period of consciousness, into complete hypoglycemia.

When diabetes is properly controlled the complication can be handled as the condition would be handled in a non-diabetic. Surgery is to the diabetic now just as it is to any one else. It is better to use regular insulin and intravenous glucose to control patients after surgery because the diet is upset, and regular insulin acts more quickly.

Prognosis: Diabetics who are careful and co-operative can live as long as those without the malady.

CONCLUSIONS

1. Diabetics should be given high carbohydrates-low fat diets because of the insulogenetic properties and because high fat content of the blood tends to produce arteriosclerosis.

2. The diet must have the essential vitamin and mineral content to prevent other food deficiency syndromes.

3. Protamine zinc insulin is preferable because of its prolonged and mild action—i. e. maintains a more or less normal blood sugar level during each of the 24 hours.

4. The patient has more to do with the control of his condition than the doctor. In diabetes the patient really treats himself.

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The Relation of the Medical Profession to the Public

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IN CONSIDERING any question of public policy one naturally turns to the bulwark of American policy, The Declaration of Independence:

"We hold these truths to be self-evident—that all men are created equal; that they are endowed by their Creator with certain inalienable rights; that among these are life, liberty, and the pursuit of happiness."

Life, for ourselves and our dear ones, is the most precious possession which we have. Without the liberty to protect as we see fit and proper the life of our dear ones, liberty is lost. Happiness is dependent upon the life and health of our family. Remove from us the liberty, that is, the privilege to give our dear ones all that we can to protect their life and health, removes from us the inalienable right of liberty and the pursuit of happiness.

In this country we think of the citizen as having three duties: duties to God, to country and to family. When these three duties are analyzed we find that only one of these is collective, our duty to our country. Our duties to the Creator and to our family are under the Constitution, individual in their nature.

Within recent years probably the most discussed and propagandized subject has been the question of providing adequate medical care, the cost of adequate medical care and the question of who or what agencies should bear the burden for medical care. The economic breakdown incident to the depression and postwar conditions have focused attention upon these important questions.

On April 25, 1916, at a meeting of the International Association of Industrial Accident Boards and Commissions, a resolution was introduced:

"That a special conference on social insurance under the auspices of the Industrial Accident Boards and Commissions, be called to meet in Washington, D. C., to hear the proponents and opponents of various plans of social insurance."

The conference was held in Washington, December 5 and 6, 1916.

Royal Meeker, Commissioner of Labor Statistics of the United States, in the introduction to the printed volume of the proceedings of this conference states:

"I believe that this collection of evidence, testimony, and opinions by the prominent exponents of all shades of opinion will serve a most useful purpose in presenting the problem of social insurance and in clarifying the issues which our legislators, administrators, and judges must face."

At that conference a model bill for social insurance was introduced by the Committee of the American Association of Labor Legislation.

Frederick L. Hoffman, statistician for the Prudential Life Insurance Company for many years and a participant in this conference, stated that the American Association for Labor Legislature is "an organization of professional reformers seeking in whatever direction they can to enlarge the sphere of their activities."

Hoffman stated that the American Association for Labor Legislation was without standing with industry or the medical profession. In discussing the question of compulsory health insurance he said: "Health insurance is a clever device of politicians and social reformers to establish a condition of wage earners bondage, under which the interests, both economic and physical, of millions of men will be made subservient to an enormous bureaucracy. Pious phrases in politics like pious phrases in reform merely serve the ulterior purpose of self-appointed propagandists indifferent to the real interests at stake."

Hoffman further expressed his attitude of opposition to compulsory health insurance as follows:

"My disapproval of the standard health insurance bill rests fundamentally upon my understanding that the same is unconditionally opposed by the executive representatives of organized labor on the one hand and of organized industry on the other. American wage earners have not asked for this legislation, which would substitute coercion for voluntary effort.

"The suggestion for an establishment of a compulsory system of health insurance comes carelessly near to being a menace to our fundamental conceptions of a republican form of government, in which there are no class distinction and no class preferences, and which rests upon the ideal, that the government which governs best is the government which governs least."

Samuel Gompers, president of the American Federation of Labor, speaking at the conference in 1916, stated:

"Take from the people of our country the source of initiative and the opportunity to aspire and struggle in order that their aspiration may become a reality, and though you couch your action in any sympathetic term it will fail of its purpose and be the undoing of the vital forces that go to make up a virile people."

"Look over all the world where you will, and see those governments where the features of compulsory benevolence have been established, and you will find the initiative taken from the hearts of the people."

Further, in speaking against social insurance, Samuel Gompers said: "The willingness to fly from the ills we bear to those of which we know not is quite too general among men who are well willing yet who are theorists, or who desire to indulge themselves in a fad that involves grave consequences not only to the workers themselves, but to the fundamental principles of freedom." Further, "I bid you have a care in all these attempts to regulate the personal activities of the citizenship of our country ere it be too late."

"For a mess of pottage, under the pretense of compulsory social insurance, let us not voluntarily surrender the fundamental principles of liberty and freedom, the hope of the Republic of the United States, the leader and teacher to the world of the significance of this great anthem chorus of humanity—liberty."

Gompers was in favor of higher wages, better living conditions for the worker, shorter hours and, as a consequence, better physical development.

Further evidence that the wage earner was not interested in compulsory health insurance legislation, is evidenced by the statements of Grant Hamilton at the conference:

"Embedded in the minds of the founders of the organized labor movement was a spirit of liberty. Regulation by statutory laws is a panacea proposed for every social evil of ill **by welfare groups not associated with the organized labor movement.**

"Compulsion of every character is frowned upon—freedom is the watchword. Voluntary in character, democracy in its most generous form is maintained."

"What wage earners want is not benevolently administered savings of pennies, but an opportunity to do the world's work, like free men and women, and to receive honest returns for their labor in the form of adequate wages. Get off the backs of the workers and there will be no need for 'insurance,' for then the wage earners, like employers, will have enough to live on and to provide for emergencies with our 'aid.'

"The workers of America adhere to voluntary institutions in preference to compulsory systems, which are held to be not only impracticable but a menace to their rights, welfare, and their liberty.

"Compulsory sickness insurance for workers is based upon the theory that they are unable to look after their own interest, and the state must interpose its authority and wisdom and assume the relation of parent or guardian.

"There is something in the very suggestion of this relationship and this policy that is repugnant to free born citizens. It is at variance with our concepts of voluntary institutions and freedom for individuals; labor questions its wisdom.

"It is of great concern to all working people of our country that under no guise, shall they lose their liberty."

The executive secretary of the Social Insurance Committee of the American Medical Association, present at this conference, Dr. I. M. Rubinow stated:

"Health insurance, whether intentionally or not, will fall into the hands of private insurance capital; it will lead to the exploitation of the medical profession in various subtle ways; it will concentrate the work into the hands of a small proportion of the medical profession and that a good many physicians at present practicing among the wage workers will find themselves not only with a diminishing income, but perhaps entirely deprived of their medical practice. If the principle of free choice is guaranteed and if insurance capital is definitely kept out of health insurance, I think that a great deal will have been accomplished in gaining the enthusiastic support of the medical profession for the practice as well as the principles of health insurance."

This statement by Rubinow in 1916, representing the medical profession of this country, should definitely set aside the idea that the medical profession was then, or now, opposed to adequate medical care for the people generally, irrespective of their earning capacity.

The objections first expressed by Rubinow were those which now are considered important, and that is, the medical profession objects to having their service capitalized on by insurance carriers, they object to be classed as employees; they object to denial to patients of liberty of the free choice of their own doctor.

Twenty years ago I became interested in the agitation for compulsory health insurance in the United States. My attention was drawn at that time to the many studies which had been made in this country and in foreign countries. After careful consideration of the provisions of the so-called model act for compulsory health insurance, as proposed by the American Association for Labor Legislation, (which act provided that the employer was to furnish two-fifths, the employee two-fifths, and the state to furnish one-fifth of the cost). I concluded—

"You can readily see that this will mean added direct tax as well as indirect tax. Direct tax because the one-fifth which the state will have to pay. Indirect tax because it is unreasonable to suppose that the employee is not going to ask for a compensatory increase in his salary to equalize the two-fifths which he is asked to pay. The increased cost in wages which the employer must pay, plus the percentage increase on his pay roll, will certainly result in the employed asking a higher price for his commodity.

"In addition the medical profession will be asked to render its service at a lower rate and as servants under a panel system, rather than the present relationship between doctors and their patients."

Up to 1921 fifteen states legislatures had these bills presented to them, none had adopted them.

The following conclusions are to be found in my report of 1921:

"Health insurance means substitution of state paternalism for individualism. It means domination of medicine by insurance carriers. It means medical service under a panel system. It means a denial of free choice of physician. It means degradation of service."

In the period intervening between 1917 and 1935, social welfare groups, medical groups and others have continued their investigations into the subject of medical care for the population as a whole.

In 1935, the President of the United States appointed an Inter-Departmental Committee to co-ordinate health and welfare activities, the end result thus far of these activities culminating in the statement in a recent message to Congress by the President as follows:

"The objective of a national health program is to make available in all parts of our country and for all groups of our people the scientific knowledge and skill at our command to prevent and care for sickness and disability; to safeguard mothers, infants, and children; and offset through social insurance the loss of earnings among workers who are temporarily or permanently disabled." (The President's message).

Let me remind you that in the April bulletin, 1934, of the American Medical Association a critical analysis of sickness insurance was published. On page 53 of this bulletin we find:

"The organization of sickness insurance in a democracy always has an important political result. Although it is always urged in the interest of underpaid workers, these have never been responsible for or even highly favorable to its enactment. Instead laborers have demanded that wages be sufficiently high to enable the recipients to pay their own medical expenses. In no country have the unions led the demand for sickness insurance. In nearly every country the first attempt to collect sickness insurance contributions from the employees has met with resistance. It was so in Germany a half century ago and in France in 1931.

"The political parties of labor have never made sickness insurance as one of their urgent planks."

The American Foundation conducted a survey, the result of which is contained in two volumes, under the title, AMERICAN MEDICINE-EXPERT TESTIMONY OUT OF COURT. These two volumes were edited by Miss Esther Everet Lape.

Opportunity was given for the expression of all aspects of the problem, both those in favor of and opposed to innovations or changes in the present set-up in the practice of medicine, in its relationship to the public.

In summarizing the results of the questionnaires on health insurance the editors state:

"That a great many physicians are opposed to compulsory insurance, on the ground of its cost, the possibility of malingering, the danger of injuring the quality of medical care, the lack of preventive measures, and the fact that it does nothing for the indigent and unemployed and is an additional burden on those with low wages and income. It is true there is some support for it, but much of it is half-hearted and qualified and much of the rest comes from men who are convinced that some change in medical service must be made, and register themselves for compulsory insurance only because they prefer it to state medicine, "and that there is a growing tendency in both the profession and the public to question why it is commendable to insure against the cost of hospital care, but unethical to insure against the cost of medical care."

Personal Comments

The answer to the last paragraph is very easy. When one insures against hospital cost he is paying for a commodity which can be provided at a stipulated fee and an expected cost with possibly some profit. It is considered unethical by the profession because there is no way definitely to figure what the individual cost for medical care of the patient will be, and there is no reason why the profession should be made into the form of a paid employee by government, and its services distributed by the government any more than the service of the legal profession or any other professional group shall be made a part of a totalitarian state.

Much prepared propaganda has been introduced into the daily papers as well as in the monthly magazines. The subject of compulsory health insurance has been discussed by all ages from high school pupils to senators and representatives. The opinions expressed in many instances have been entirely based upon such literature as was made easily available to the particular individual.

Catch phrases, high-sounding self-consecrated attitudes are found borne upon the banner of the would-be crusaders for the public health These crusaders for the right, picture the medical profession in a pretty poor light. Some propagandists either sincerely or as a result of political expediency have gone so far as to threaten the medical profession that statutes will be placed upon the congressional records to force the profession into an obedient subservient attitude.

An article written by the editor of American appeared in the ATLANTIC MONTHLY, April Foundation, "Expert Testimony Out of Court," 1937. It would naturally have been expected that the editor of the various opinions would have been non-partisan in her expressions rather than purely critical of the policy or expressions of some of those who participated in the formulation of the Foundation's impressions. Quoting from this article:

"The American Foundation felt that a large problem that concerns all of us has been falsely narrowed into a controversy, not between doctors, but between organized medicine, **regarded by the other side as a guild of reactionaries defensively protecting a vested interest, and the Social Welfare group, carrying the banner for the underprivileged."**

I cannot help digressing here to note the consecrated is almost angelic attitude, one of beatification ascribed to the social welfare group and the "devil may care" character attributed to the medical profession.

"Reactionaries defensively protecting a vested interest."

May I ask who has taken care of the sick, the indigent, and the underprivileged? Has it been the doctor or the social welfare worker?

Continuing the quotation from Miss Lape's article we find:

"The compulsory sickness insurance part of that social security proposal was vigorously resisted by organized medicine. They fought it, and at the clarion call doctors in every hamlet ran forth with their muskets to line up against state medicine, government interference with their livelihood, the socialistic program of swivel-chair social economists."

Following the description or characterization of the profession as a group of sharp shooters, aiming their darts at the underprivileged we find that a distinguished senator threatened the profession by introducing a resolution making it "compulsory for physicians to render any medical air requested of them by the indigent." A jail sentence and fine was included in the resolution.

First propaganda, then criticism, and **then is followed by threats.**

Fortunately we find that not all of the federal legislators feel that way. Representative Samuel B. Pettengill took up the cudgels for the profession, quoting from the congressional records we find:

"There are few if any relationships in life more individualistic than that between doctor and patient. The relationship is one of mutual confidence."

Congressman Pettengill took exception to Senator Lewis' threat in the following words:

"Well, there you have streamlined state medicine. If that is it, I'm against it. If the federal government can fix the wages of a doctor, it can fix the wages of the manual worker or the compensation of the farmer, the lawyer, the editor, the clergymen. How can you distinguish state socialism in medicine from state socialism in any other vocation? The principle is wrong. Before plunging headlong into serfdom, we should be realistic enough to recognize two things: first, that the need for state medicine is more apparent than actual; and second, that the result of practicing medicine at public expense by political bureaus, even among the very poor is nothing to brag about."

In July, 1938, the National Health Conference was called. This conference was attended by representatives of labor, social welfare organizations, medical organizations and other groups. This conference had presented to it, a national health program which had been prepared by a technical committee appointed by the interdepartmental committee. The health program had for its object the coordination of health and welfare activities by authority of the President of the United States.

One of the proposals was:

"A program for compulsory sickness insurance covering the entire population of the United States."

Irving Abell, president of the A. M. A., reporting to a special meeting of the House of Delegates of the Association on September 16, 1938, stated with reference to the conference which had been held in July:

"Without calling the organized medical profession, or any considerable representation among those in practice, into conference, a vast plan affecting health and medical care has been proposed to the people. In the forwarding of this plan, forces of propaganda have apparently made a studied effort to indicate that the medical association opposes all changes and that it is essentially a stand-pat organization. The charge which is sometime made that physicians oppose change because of a desire for more and more money is an outrageous misstatement of our attitude. It is a fundamental tenet of the American Medical Association 'that the poverty of a patient should demand the gratuitous service of the physician.' The association has never opposed suitable care by municipal, county, state, or other government agencies for the indigent or those on the border line of indigencies. The A. M. A. has never opposed participation by the government in preventive medicine.

"American medicine fears bureaucracy; it fears the acceptance of European models. The medical profession of this country wishes to keep the practice of medicine in the medical profession. It does not concede that any political agency can do the job with one-tenth the efficiency at ten times the cost. The medical association has never opposed the principle of insurance, the principle which we do oppose is political administration and manipulation of the insurance organizations, devotion of considerable portion of the funds thus derived to the payment of a great number of employees not directly concerned with the service, but intimately concerned with the maintenance of a political organization, an expansion of such organization to wield greater and greater powers in the affairs of the nation. It opposes any interference by any outside agency, commercial or governmental into the relationship between the doctor and patient.

"The American Medical Association concedes public health to be a government concern, that is the local, municipal, county, state and federal government. It concedes that contagious diseases recognize no state boundaries."

Dr. H. L. Schneider discussing public health as a national problem stated:

"A comprehensive program for the prevention and cure of disease such as we envisage must include to co-operation not only of the federal government with state and local government, but all governmental health officials with private physicians throughout the length and breadth of the land. Such a program is in harmony with our determination that private enterprise in business and the profession must be preserved, encouraged, and fostered.

"It is our belief that there is an American way to solve these problems whereby we may preserve a maximum of individual freedom and initiative in utilizing a minimum of governmental and bureaucratic control.

"The keynote of a policy should be to help the citizen help himself. We have approved the principle of hospital service insurance which is being widely adopted throughout the country."

With reference to compulsory health insurance Schneider said:

"1. Compulsory health insurance is a system of taxation which requires a wage tax, a payroll tax, and a government subsidy derived necessarily from general taxation.

"2. Medical care received by the beneficiaries of compulsory insurance is of an inferior quality as compared with the average prevalent in the United States.

"3. Compulsory health insurance requires its administration, expense far beyond any possible value in medical care received by the people.

"4. Compulsory health insurance results in a higher degree of government control of both the physician and the patient.

"For these reasons we are unwilling to foster any system of compulsory health insurance."

Gordon Heyd, in a recent paper published in "America's Future," New Year's Issue, 1939, under the caption: Do You Want Your Own Doctor or a Job Holder?, made several extremely valuable observations, first he would remind us:

"The actual work of any system is not performed by the idealist, and the reformer and humanitarian, but by ordinary men; when government controls it dictates.

"The patient under a compulsory health insurance would have no choice of physician.

"Compulsory health insurance is an implement of the totalitarian state, and it is not without interest that those nationalities which first succumb to dictators are those which have had systems of compulsory health insurance for the longest time.

"If all human activities from birth to the grave are regulated by the government citizens become robots.

"Socialized medicine is a political expedient."

Heyd says that there are two questions which are often overlooked. They are:

"The first involves a simple question: How much would it cost? Second, who pays for compulsory insurance?"

Following this up Heyd reminds us that Bower Aly, a proponent of socialized medicine, stated "that a program of complete medical care available to all would actually cost only ten cents per person per day. We have today a population of approximately 129,000,000 people. At ten cents a day the annual cost would be $4,700,000,000. The cost of medical care was estimated in 1929 at $3,960,000,000. The estimated national income for 1938 varies between $61,000,000,000 and $66,000,000,000. That means that we would pay for a socialized medical service about 5.8 per cent of the total national income."

We might well ask ourselves if we would like to have an additional eight per cent taxation by the federal government. Let me remind you that this eight per cent would not be equally distributed, like all other taxes it would be higher on the higher income bracket.

I am in full agreement with Dr. Heyd when he says:

"A constantly recurring enigma seems to be—why some politically-minded individuals in high office apparently wish to foist upon an inadequately informed American people a system of medical practice of demonstrably inferior quality and at a constantly increasing cost, with a high extension of administrative expense—all that to be paid for by taxation. Why substitute this for a tried and functioning, adequate, good medical service, distributed at the present time at a surprisingly low cost and without bureaucratic or political administration? Why should we discard all of our experience and enter upon a path of trial and error and which eventually leads to inferior medical service?"

There is a constantly recurring expression: "Illness is ordinarily the most important single cause of social and economic dependency."

Is this statement true?

Of all the unemployed is illness the major factor for unemployment?

Are we to believe that there is so great a number of unemployables or is there an economic depression which is responsible for unemployment, and therefore the great demand for the dole, or whatever name we are pleased to give the WPA, D.P.W., or PWA?

We see the expression constantly recurring: "The poor who are the least able to purchase medical care have the higher sickness rate."

I feel with many that if we provide the wage earner with a living wage in industry and agriculture and we provide work for all employables, this situation will not exist.

Unemployment is not, I believe, a question of unemployables. Indigency is not entirely a question of sickness or old age or unemployability. It has a much-to-do-with unemployment or failure of industry to provide employment for those who are willing to work as it has to do with indigency or unemployability.

As citizens you are not anxious to have taxes increased.

As free men you wish to preserve the rights of free choice of your professional advisers.

All admit that public health is public concern.

All admit that a citizen with a communicable disease is public concern. He has no right to endanger the public welfare.

This is the concern of our public health or preventive medicine organizations. That is government business.

Individual health should be cared for by the individual, by selection, and through free and unshackled professional groups.

We want to remain free American citizens in the American way.

The Mississippi Doctor

Published monthly at Booneville, Mississippi
Entered as second-class matter, January 19, 1926, at the post office at Booneville, Miss., under the Act of March 3, 1870. Annual subscription $1.00.

The journal with a vision which encourages a plan of delivering modern medicine to the masses at less cost to the individual and more profit to the practitioner. It champions the community hospital, the hub around which this service must be built.

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Manuscripts and material for publication under the Mississippi State Medical Association should be received not later than the twentieth of the month preceding publication. Address material to Lawrence W. Long, M.D., Suite 412 Standard Life Building, Jackson, Mississippi.

TO THE MEDICAL PROFESSION OF MISSISSIPPI:

Dear Doctors:

As General Chairman of the local Committee on Arrangements for the Mississippi State Meeting to be held in Jackson May 15-16, I wish to urge that each of you attend.

The state meeting promises to be one of the best. The local Committee on Arrangements is making every effort to provide everything that you need to make a successful meeting. The State Pediatrics Society will meet on Monday preceding the meeting with an excellent program for the afternoon and evening. Every doctor in Mississippi and adjacent territory is invited to attend these meetings on Monday, May 13. The program will be printed in detail at a later date, but let me urge that you make your plans to attend.

Looking forward to seeing you in Jackson, May 13, at the Robert E. Lee Hotel, I am

Very truly yours,
Lawrence W. Long, M.D.,
General Chairman of the Committee on Arrangements.

TO THE MEDICAL PROFESSION OF MISSISSIPPI

My dear friends,

Today in consultation with the manager's office of the Robert E. Lee Hotel, the headquarters for our annual meeting of the Mississippi State Medical Association on May 14, 15 and 16, the assurances were given that the hotel will be able to take care of all of our membership.

But the hotel asked that reservations be made as early as possible. Will you please make your reservation now?

We are planning a most interesting session, both in the scientific and entertainment features, so every doctor should try to attend, for he will learn and, incidentally, have a pleasant time with us.

Therefore, write today to the Robert E. Lee Hotel to make your reservation.

Sincerely yours,
J. P. WALL, President, Mississippi State Medical Association.

Our Mississippi State Medical Association holds its annual session in Jackson on May 14, 15 and 16, with the Robert E. Lee Hotel as headquarters. This hotel offers splendid accommodations for the state meeting. Jackson is well supplied with hotels and no city will be found with more cordial and courteous service. The people of Jackson are friendly and accommodating. The scientific program is very fine this year. We have medical problems and the state meeting is the very best place to discuss them. Great good should always result from honest, open and frank discussion. The medical profession has an economical problem of its own as it seeks to give the people better service without increasing the cost. This is possible if the doctors co-operate with each other as they might and if they have the vision of service to the people that they should. We should seek the truth in solving our difficulties and hope that it will make us more secure and furnish the people better service. Our county, state, and national organizations constitute the channel through which we should work for the adjustment of our medical problems. The facts in the whole proposition should be common knowledge. Each member of each one of these organizations can help the other. With co-operative effort the medical profession can be made more secure and the people much better served. Let us meet at the state capital this year with honesty of purpose and swap ideas in a brotherly manner.

TO THE DOCTORS OF MISSISSIPPI

I have been appointed chairman of the Committee on Scientific Exhibits for the Mississippi State Medical Association. Anyone desiring to have an exhibit at the coming meeting, which will be held in Jackson May 14, 15 and 16, I should appreciate your writing me telling me how much wall space you would like for your exhibit.

Yours truly,
Lock S. Meriwether, M.D.
Jackson, Miss.

STATE HOSPITALS

A recent bill was passed for a charity hospital in North Mississippi. Mississippi now has five out of the seven state-owned and operated charity hospitals in the United States. Our charity hospitals are poorly equipped and poorly supported. They serve in the main as local hospitals. We really have more hospitals in Mississippi than we need. With some consolidations, a better distribution, and a little more liberal support for the indigent we could have the best plan of medical service in the nation. If we should have another state hospital it should take the place of one we already have and should be near the center of the state. As long as the state can distribute funds on a per capita basis and secure medical service for its indigent in every nook and corner of the commonwealth at a cost price and less and with the work being done by the medical profession without pay, it should certainly be happy to do so. The small hospitals throughout the state cannot carry the burden of charity without some aid. If we lose them then many people who are just beyond the indigent line will not have the fine service they are now receiving right at home at a most reasonable cost. The per capita distribution of funds for the indigent means better medicine for every person in the state. It simply promotes better medicine at less cost for one and all. This system is certainly freer of politics than any other we know. The small hospital system we have helps to educate the medical profession, to keep doctors in the small town and rural community, tax in turn to give the people better medical service at less cost. It is time to think straight about our hospitals and to act unselfishly and with courage in the interest of all the people.

The American Medical Association will hold its annual session this year June 10-14 in New York City. It is the greatest medical organization in the world. It should be well attended all the time, especially this year with so many medical problems before us, with the need of more medical knowledge always. After all, the A. M. A. is every doctor's association. It needs every practicing physician in the United States and each one needs it. The practice of medicine is becoming more complicated each day. The people are expecting and demanding more and the profession may be growing less willing to give. The charity burden is becoming more staggering to the profession, especially in the small town and rural community of the South. The government's interest in medical care, maybe well meaning, has caused much restlessness on the part of the people and has weakened the sacred confidence to some extent between the patient and the profession. We may have more medical societies than we need, more than a poor man can attend, but our medical problems must be met and solved in the main through the united efforts of the county, the state, and the American Medical Association. We should hang together before we are hanged separately. We believe that the American Medical Association is taking a keener interest in medical service for the masses and the economical problems of the practitioner than it ever has and for this it is to be commended. We hope that many doctors from Mississippi may attend the A. M. A. in June in New York.

Dr. J. S. Wheeler, of Tishomingo, Miss., who died on March 25, 1940, was a native of Itawamba County and seventy-five years of age. He first practiced at Marietta, Prentiss County, where he married Miss Lillian Billingsley, who lived for only a short while. He later married Miss Sophia Riddle of Prentiss County who survives him. He received his B. S. degree from Iuka Normal Institute and his medical degree from the Hospital College of Louisville, Ky. He began practice in 1898 and was very active the rest of his professional life of forty-two years, twenty-six years in Prentiss County. Dr. Wheeler was a fine type of the family physician. He loved the practice of medicine and he was ever true to his patients whether they had money or whether they did not. His wife was his true helper in every way, in spirit and actual aid by going on calls with him. The people felt the warmth of their friendship and were cheered by their optimism and their sincere interest. Dr. Wheeler truly walked with the people day by day and entered into their joys and sympathies, tneir victories and their defeats. About seventeen per cent of doctors in Mississippi are past sixty-five years. Now within the last few weeks two of the veterans have surrendered their lancets and answered the call from the line of duty—the beloved Dr. Haney of Iuka died just a few weeks ago.

If you compare The Mississippi Doctor, a cross section of the papers, their quality, timely publication and the number of pages with neighboring state journals, we feel sure you will appreciate the time and expense that has been invested in it for the sake of the profession. This journal could not be published if it were not for the kindness and the cooperation of our advertisers and the good will of those who carry courtesy cards. To each and everyone of these we are very grateful. We want to ask our readers again to buy from the companies that advertise with us. We are sure they can furnish you with anything you need; if they haven't it already, they can secure it for you. This bit of co-operation will not cost you anything and it will help us a lot, as well as enable you to have a much better and more serviceable journal.

Last year the paid membership of the Mississippi State Medical Association was 1021, we believe. This was a fine record, but not as good as it should be. We have not reached this number for 1940. Times are hard, but, even so, a doctor who is in practice should by all means belong to his state association. He needs the aid it can give, and he can be of much benefit to others by belonging. It is very important for doctors to co-operate with each other for their own good and in the interest of the people. It is time for vision and decision on the part of the medical fraternity. And now our state association can be of the greatest service to us. Pay your dues before the meeting in Jackson in May.

The Rush brothers, who are favorably known in medical circles throughout the South, have their own hospital in Meridian; so does Dr. F. G. Riley, formerly of Tupelo and Booneville, as well as Dr. M. L. Flint, who was located in Newton for some time. Dr. A. C. Bryan is one of the corner stones of the medical spirit in this splendid city. Lauderdale County also has one of the most up-to-date health units in the United States, now headed by Dr. N. C. Knight. This county is brimful of medical talent and it is alive with the spirit of progress; we felt its warmth and power as we sat with the men at the banquet. Better keep your eye on the Lauderdale Medical Society.

We were delighted to attend the meeting of the Lauderdale County Medical Society on March 7 at Meridian. The attendance was fine and the banquet at the Lamar Hotel was one of the nicest we have ever seen. Dr. Carl Stingily presided as president, and he did it in fine order. Drs. Felix J. Underwood, of the State Board of Health, and Harvey F. Garrison, Sr., chairman of the Pediatrics Section of the Southern Medical Association and state chairman for the American Academy of Pediatrics, were guests. Dr. Hickman, superintendent of the East Mississippi Hospital and Dr. M. J. Hoye, superintendent of the Hoye Sanitarium, are prominent members of this society.

The eleventh annual session of the Southeastern Surgical Congress was held at Birmingham March 11, 12, 13. President R. L. Sanders of Memphis presided over the meeting and did it with grace and efficiency. Everything moved by the minute. The attendance was unusually good and the interest very fine.

The medical spirit of Birmingham was on tip toe with its cordial reception and friendly entertainment. Dr. Irving Abell of Louisville, Ky., now succeeds to the presidency with Dr. Julius L. Rawls of Norfolk, Va., as president-elect. The next meeting will be held in Richmond, Va.

The Northeast Mississippi Thirteen Counties Medical Society held a fine session on March 12 at Corinth. Dr. James H. Hutton, of Chicago, was the guest speaker. He addressed the Woman's Auxiliary as well as the scientific session in the afternoon and the banquet that night. Everyone present was delighted with Dr. Hutton, able president of the State Medical Association of Illinois. He will receive a cordial welcome back to this society any time.

The Delta Medical Society held its thirty-fifth semi-annual session at Greenwood on April 10. Dr. B. H. Higdon, of Sunflower, is president; Dr. H. A. Gamble, Greenville, pres.-elect; and Dr. Frank Acree, Greenville, secretary-treasurer. Dr. Dean Echols, of New Orleans, was guest speaker, with the subject, "Diagnosis and Treatment of Sciatica."

We are very grateful to the American Optical Company for their half-page ad recently placed with us. This is a quality company and their service is most cordial.

When the state distributes charity funds on a per capita basis, it not only does the fairest and the best and the most economical thing for the indigent, but it helps to keep open scores of hospitals that help to give fine service to many people who are just above the needy line. The state hospitals we have do good work under the circumstances we are sure, but really they are not a credit to medical progress. There should certainly be no additional state-owned hospital added to our number.

The hospitals we have throughout the nation should be utilized before others are built, especially by the government.

If so much equipment is needed to diagnose and treat a sick person as is claimed by Dr. Cabot, then why is it that the few who have this equipment do not show better records than they do? The records indicate that the practitioner and even the mid-wife have fewer casualties in obstetrics out in the country than do the city hospitals.

With human brains and the right kind of a heart, good medicine can be practiced without so much equipment What the medical profession needs to do is to find the way to better medicine for less cost to the patient and more profit to its members. This can be done, it will be done, it must be done.

The next step forward is to establish some hospitals to unteach what many interns are now learning, it seems, namely: disregard for expense, for the personal feelings of the patient, for any definite knowledge of the person in his relation to life.

What doth it profit a doctor to chase a germ to the jumping off place and to know little and care less about the human organism whose life he is duty bound to save and to make bigger in volume?

Surely we need more equipment to practice, but much of it should be in the form of heart, mind and soul, just like the blessed old family physician possessed.

News and Comments

DR. MATAS FETED

The 60th anniversary of the beginning of the professional practice of Dr. Rudolph Matas, internationally famed New Orleans surgeon, was celebrated at Monday night's session of the fourth annual meeting of the New Orleans Graduate Medical Assembly, which met Feb. 26-29 in New Orleans.

Dr. Matas, who spoke on "Along the Highways of Medicine in Louisiana," was introduced at the session by Dr. Elliott Carr Cutler of Boston, professor of surgery at the Harvard University Medical School. Dr. Emmett L. Irwin, president of the New Orleans Graduate Medical Assembly, presided.

Dr. Louis Levy has been elected president of the Executive Board of the Memphis Council of Social Agencies.

DR. W. W. REYNOLDS

Dr. W. W. Reynolds, of Meridian, who is now superintendent of the Matty Hersee Hospital of that city. Meridian has nine hospitals, all told. Matty Hersee is the charity hospital supported by the state with some local aid. From all we have been told Dr. Reynolds is giving fine satisfaction as superintendent and is a delightful man to know. A native of Newton County, nearing his seventieth birthday, has been practicing in Meridian for forty-two years. He has the medical spirit in his heart, his sympathy goes out to the people who are suffering and need relief, and he is fair and co-operative with his fellow doctors.

Dr. James F. Haynie of Gulfport died on Jan. 25, 1940, after doing an active practice for 35 years. He was a member of the Baptist Church. He belonged to a number of medical societies. He possessed many of the traits of the Great Physician. He loved the practice of medicine; he loved to relieve suffering people, and was very considerate of everyone. He was a man who loved his home and was deeply devoted to his family.

He is survived by his wife, Mrs. Gertrude Haynie, five sons and one daughter, as follows: Francis L. Haynie, William T., James B., of San Francisco, Cal.; J. F., of Jackson, Miss.; Hugh Jones, of Gulfport, and Mrs. C. W. Wagley of Jackson.

DR. SEALE HARRIS, SR.

Dr. Seale Harris, Sr., of Birmingham, Ala., who recently celebrated his 70th birthday. Judging by his present activities you would think him about fifty-five. He is keeping up with the last word in his specialty. He is busy writing books and papers as well as seeing his patients. His name is a household word in the South. Dr. Harris is internationally known in the medical profession. If a man keeps mentally and physically fit he may be worth more to human society every day that he lives even though he reaches a hundred years. Dr. Harris is showing the way. He has not even reached his most useful years yet, in our opinion. He represents the spirit of Southern medicine in a magnanimous way and as a citizen he does not fail to champion every good cause. We wish for him at least thirty more years to apply his increasing knowledge and ripening wisdom for the good of humanity.

Dr. Wallace Smith of Natchez died on March 24. Dr. Smith was only 35 years of age but one of the leading physicians of Natchez where he had been practicing since 1936. He is survived by his wife and two children.

The March issue of the MISSISSIPPI VALLEY MEDICAL JOURNAL AND RADIOLOGIC REVIEW will be the thirteenth annual "Radium Number." This issue contains ten original articles by well known radium therapists.

The above picture was taken in front of the Edgewater Gulf Hotel at Edgewater Park, Mississippi, at the Regional Pediatric Meeting on March 15 and 16, at which meeting about fifteen states were represented. These distinguished men from out of state seem to be highly pleased with our Gulf Coast, the future playground of America, as a meeting place. Dr. Harvey F. Garrison, Sr., of Jackson, was largely instrumental in bringing the Regional Meeting to Mississippi. We hope it may return at an early date and others may adopt our Gulf Coast as a meeting place.

Reading from left to right are: Clifford Grulee, Secretary-Manager A. A. P.; Joseph B. Bilderback, President A. A. P.; Robert Strong, State Chairman for Louisiana A. A. P.; Lawrence R. DeBuys, Past President A. A. P.; Hugh Leslie Moore, Associate Regional Chairman, A. A. P.; Felix J. Underwood, State Health Officer of Mississippi; Horton Casparis, State Chairman for Tennessee A. A. P.; Harvey F. Garrison, State Chairman for Mississippi A. A. P.

COMING MEDICAL MEETINGS

Mississippi State Medical meeting at Jackson, Miss., at Robert E. Lee Hotel, May 14, 15, and 16.

The American Medical Association meets in New York City, June 10 to 14.

Tennessee State Medical Association meets in Chattanooga, Tenn., April 9 to 11,

National Tuberculosis Association, Cleveland, Ohio, June 3 to 6.

West Tennessee Medical and Surgical Association, Jackson, Tenn., May, 1940.

American Association for the Study of Goiter, Rochester, Minn., April 15, 16 and 17.

American Surgical Association, St. Louis, May 1 to 3.

Association of American Physicians, Atlantic City, May 7 to 8.

Arkansas Medical Society meets at Ft. Smith, April 15 to 17.

Alabama State Medical Association, Birmingham, Ala., April 16, 17, 18.

American Public Health Association, Detroit, October 8 to 11.

Southern Medical Association, Louisville, Ky., November 12 to 15.

Southern Railway Surgeons, Charleston, S. C., June, 1940.

STATE MEDICAL ASSOCIATION

JACKSON, MISSISSIPPI, MAY 14-16, 1940

COMMITTEE CHAIRMEN

Committee	Chairman
1. General Chairman	Dr. L. W. Long
2. Publicity	Dr. W. E. Noblin, Sr.
3. Scientific Exhibits	Dr. L. S. Meriwether
4. Commercial Exhibits	Dr. D. W. Jones
5. Hotel	Dr. G. C. Russell
6. Entertainment	Dr. H. R. Shands
7. Transportation	Dr. W. F. Hand
8. Sports	Dr. G. E. Adkins
9. Meeting Arrangements, including equipment	Dr. J. C. Henthorne
10. Signs and Placards	Dr. Brister Ware
11. Ladies' Auxiliary (General Chairman)	Mrs. H. C. Sheffield
12. Distinguished Guests	Dr. N. C. Womack
13. Finance	Dr. H. C. Ricks

DR. FRANK M. TINDALL

Dr. Frank M. Tindall, 53, practicing physician of Sunflower, Miss., for 25 years, died of a heart attack at 3 o'clock, March 31 at King's Daughters Hospital in Greenville, Miss.

Dr. Tindall was born May 25, 1886, at Misterton, Miss.

Dr. Tindall was a graduate of the University of Mississippi and later received his medical degree from the University of Virginia, and was a member of the Presbyterian Church. He was a member of Delta Psi Fraternity, Delta Medical Society, Mississippi State Medical Association Southern Medical Association, The American Medical Association and was a reader of THE MISSISSIPPI DOCTOR.

He leaves his wife, Ida Bell Fox Tindall, three daughters, Patsy, Beulah Fox and Nancy Tindall, and one son, Frank Tindall, Jr., all of Sunflower. He is also survived by two brothers and four sisters.

Funeral services were held in the Methodist Church at Sunflower, April 2 at 2 P.M., conducted by the Rev. Mr. Bruce, Presbyterian pastor of Indianola, assisted by Rev. Gregory, pastor of the Methodist Church at Pickens. Burial was in the Indianola Cemetery.

Dr. William Van Buren Saul of Clay County recently celebrated his 82nd year, his sixtieth year in practice. He is the father of Sheriff Tom Saul of Clay County, and Steve, a representative in the legislature from Clay. He has one daughter, Mrs. J. T. Cliett of West Point. Mrs. Saul died 23 years ago. He graduated from the University of Louisville in Medicine. He has practiced in the community in which he now lives for sixty years. On his 82nd birthday he made calls and drove his own car. He lives in the house in which his mother died. Dr. Saul, we know, is a great character. He is the typical family physician, true and tried. He possesses the heart, the mind and soul of the true physician.

Dr. J. H. White, who has been in charge of the Alcorn County Health Unit for several months has moved to Columbus to take charge of the Lowndes County Unit. He will be succeeded by Dr. William R. Armstrong of Houston until Dr. DeJarnette returns from Johns Hopkins University where he has been taking postgraduate work.

The second annual gathering of the Southeastern Section of the American Congress of Physical Therapy will be held at the Biltmore Hotel in Atlanta, Georgia, on May 20 and 21. The registration fee will be two dollars. A very strong program has been arranged.

Dr. R. J. Jones has been appointed director of the Leflore County Health Department at Greenwood. Dr. Jones was formerly with the Southeastern Health District.

The 69th annual meeting of the American Public Health Association will be held in Detroit, Michigan, October 8-11, with the Book-Cadillac Hotel as headquarters.

TRIBUTE TO THE MEMORY OF MARION L. MONTGOMERY, JR.

Just before the dawn of that beautiful morning, February 28, when to live was so desirable, the Heavenly Father called Marion L. Montgomery, Jr., of Louisville, to that Celestial Home where there are no sorrows or heart aches. The end came just thirteen days after he so courageously entered the hospital. He was still in the bud of life, and the many petals were so beautifully unfolding when the dreamless sleep kissed his eyes. "It all seems wrong," that he should be called as he stood upon the threshold of manhood, "and we do not understand," yet who shall say it is not best.

To number Marion's friends would be to count those who knew him. He was loved by all and returned that love many-fold. It was natural with him to make friends. That social trait which stands over and above all others, cheerfulness, was always present and noticeable in Marion as manifested by his smiles. "There are a few noble natures whose very presence carries sunshine with them wherever they go." His was one of these.

Marion made good at whatever he attempted. His public school life was spent in the Louisville school. He loved his school work, and was very devoted to his music and the high school band of which he was a charter member. He was also a charter member of the Louisville Boy Scouts. Marion entered Mississippi State College in 1938 but was forced to withdraw in an effort to restore his health. He later did work from the University of Mississippi and the University of Alabama.

Despite the fact that he was several times in hospitals for operations and treatment he tried his best to live a normal life as other boys. This was apparently accomplished with a smile, yet his body was seldom entirely free from pain.

Marion was an active member of the Methodist church and contributed much to its spiritual life. He has held various offices in the church organizations and was always ready to render any service he was called upon to do. His beautiful life in its purity will be an influence that will live with us always.

Active Pallbearers—Henry Suber, B. M. Files, Frank Giffin, Harry Bennett, Robert Hull, Dorsey Carr, Tonnie Boyles, Lee Griffis, Jr.

Honorary Pallbearers—Warren Greer Taylor, H. C. Earhart, Henry Fair, Howard Richardson, David Richardson, Fred Nabers, Bobby Metts, Alva Triplett, James Drapier, Horace Adams, William Lloyd Reed, Sherill Lloyd, Denton Chapman, Woody Majure, David Hull, George McGraw, Fred Hemphill, Albert Dewey Richardson, Billy Leonard, Edwin Triplett, Archie McNeel, Wyndel McAlilly, J. D. Blackwood, Ed Livingston, M. L. Kerr, Jr., Randell Harvey, Guss Heilbronner, Walter Triplett, Gerald Hull, J. A. Nowell, Ernest Foster, Barron Marshall, H. M. Wamsley, Dr. John Shea, Dr. Charles Robinson, Dr. Willis C. Campbell, Dr. Henry G. Rudner, H. M. King.

BOOK REVIEWS

The Fifth Edition of NERVOUS DISEASES by Bing and Haymaker is one of the latest and best authorities in this field. Dr. Bing is Professor of Neurology, University of Basel, Switzerland, wrote this book. It has been translated and enlarged by Dr. Haymaker, Assistant Clinical Professor of Neurology and Lecturer in Nuero-Antatomy in the University of California. It includes 20 illustrations with nine in color. It is published by the nationally known C. V. Mosby Company of St. Louis. The price is $10.00.

The American author has condensed, simplified and vitalized the material no doubt. Much anatomy and physiology has been added to the book by the translator as he has adapted it to English and American use.

Diseases of the peripheral nerves are first discussed covering the pathology, the symtomatology and treatment et al. Dyskinesia is then treated in its different forms and phases. Intracranial tumors and abscesses of the brain come in for a good share of attention as well as malformations and congenital defects. The diseases of the endocrine glands and their relations to problems in neurology are covered in an interesting manner. The latest known on convulsive disorders and headaches will be found of much interest to the practitioner as will be the most recent data on psychoneuroses. The medical profession should be very grateful to Dr. Haymaker for his superlative efforts in making this massive accumulation of information available in such a practical book of less than nine hundred pages. The profession is fortunate to have Dr. Bing's years of study brought to it in digested workable form.

The foot may be a long way from the head, but yet it has a lot to do with a person's disposition and mental efficiency. With the proper care of the foot much surgery could be prevented, no doubt. One of the most interesting and helpful books we have seen for some time is DISEASES OF THE FOOT, by Emil D. W. Hauser, M.D., Assistant Professor of Bones and Joint Surgery of Northwestern University and Attending Orthopedic Surgeon, Passavant Memorial Hospital, Chicago. Published by the W. B. Saunders Company, Philadelphia. Cloth, $6.00. Pp. 472, with 263 illustrations.

Dr. Hauser begins his book with a brief review of the comparative anatomy of the foot on man and the lower animals, and then gives an interesting discussion of development according to functional demands, mentioning the foot of the Chinese coolie, the Hawaiian surf-rider, the Sara dancing girl, et al. He discusses the physiology of the foot in the only animal that stands in the upright position—man. Giving an outline on how to examine the feet and discussing the foot of the growing child, he suggests the type of shoe to be worn by man, woman and child. He discusses flatfoot, diagnosis, cause and treatment both conservative and radical. A rather full discussion is given to the orthoptic condition of the toes, etiology, symptoms and treatment, prophylactic as well as surgical, the sesamoid bones of the foot, and the heel. X-ray pictures are used freely as an aid to diagnosis. Interesting discussions of posture disturbances and their relation to the foot are given, low back pain being included in this connection. Pointed discussions on club foot, suggested treatment and the time it should be done, and how, circulatory disturbances in the feet, such as frost bite, trench foot, thrombo-angiitis obliterans, arteriosclerosis, and diabetic gangrene, should prove very helpful to the practitioner. Fractures of the foot and ankle as well as sprains and treatment for same are carefully outlined, likewise diseases of nerves and discussions and their relation to disorders of the feet. Dr. Hauser's book seems to be a jump ahead of anything that has been published on this subject and certainly would prove valuable on the desk of every practitioner.

Directory of Medical Specialists, Certified by American Boards 1939, Paul Titus, Directing Editor, J. Stewart Rodman, Associate Editor. Pages xv + 1573. Price: $5.00. Published March 15, 1940, by Columbia University Press, Morningside Heights, New York City.

This, the only official directory of its kind, lists approximately 14,400 diplomates certified by the twelve special American Boards and one of the two affiliate boards.

A separate section is devoted to each American Board, with both a geographic and a biographic listing of its diplomates. In addition, there is a complete alphabetic list of all the 14,400 diplomates. In this list there are addresses and indications of specialty certification, while in the geographic sections complete biographic information is given. The organization and examination requirements of each of the American Boards are explained in full.

All these features make the Directory unique and invaluable to doctors, (specialists or general practitioners), hospitals, social agencies, libraries, medical societies, business organizations, etc. It will help hospital officials pass on the ability of candidates for staff positions. It will provide medical society officers with authoritative lists. Family physicians can form an accurate judgment of the qualifications and ability of specialists in any branch of medicine for the benefit of patients. In short, it has so many practical uses that it is certain to be an indispensable reference tool for thousands of individuals and organizations.

Elmer and Rose Physical Diagnosis. Revised by Harry Walker, M.D., F.A.C.P., Associate Professor of Medicine, Medical College of Virginia, Richmond, Va., 765 pages, 295 illustrations. Eighth edition. Published by C. V. Mosby Company, 1940, price $8.75.

In clinical medicine of today there have been developed many exact diagnostic aids which tend to demonstrate the limitation of physical diagnosis; however, the physical examination will always remain an important part of clinical medicine as it determines the direction along which the more exact diagnostic aids must be used.

This book is divided into four sections. The first section deals in a systemic way, conforming to the usual order of the physical examination, with the object and technic and interpretation of physical finding of each part of the body. Topographic anatomy of the various organs and structures is well illustrated. The clinical anatomy and physiology of each part is discussed at the same time. Section Two deals specifically with the diseases of the respiratory system. Each disease is discussed under the heads of pathology, physical findings and diagnosis. Section Three deals in detail with diseases of the circulatory system and diagnostic physical signs found in each condition. Section Four deals with the special diagnostic procedures.

In writing the book the author has attempted to describe not only the signs of value but the more generally known useless ones as well, while attempting to assign to each its proper relative value as the examiner encounters both the relevant and irrelevant in his examination and must recognize their relative value. This book is recommended for those who desire an up-to-date, concise work on physical diagnosis.

Another very splendid and popular book is off the press. It is DISEASES OF THE EAR, NOSE AND THROAT, by Francis L. Lederer, M.D., F.A.C.S. He is professor of the Department of Laryngology, Rhinology, and Otology of the University of Illinois School of Medicine, Chicago, and Chief of the Otolaryngological Service at the Research and Educational Hospital. This is a second revised edition of Dr. Lederer's book, the first having been published in 1938. This book became very popular immediately. It combined in one book anatomy, pathology, diagnosis, prognosis and treatment. The author is a clear thinker; his book is well written, easy to read and understand. It is an unusual book, the second edition being a marked improvement over the first, even though the time has been very short. It contains 840 pages with 765 halftone and line engravings on 463 figures, and sixteen full-page color plates.

The book is especially recommended for medical students, but is remarkably suited to the needs of the practitioner, graduate student and specialist in the field of otolaryngology. It is just a complete work on the subject, the best that we know. This handsome one-volume authority is published by the F. A. Davis Company of Philadelphia at the very modest price of ten dollars.

DISEASES OF THE SKIN. By Richard L. Sutton, M.D., Sc.D., LL.D., Professor of Dermatology, University of Kansas School of Medicine, Kansas City, and Richard L. Sutton, Jr., A.M., M.D., L.R.C.P., Associate in Dermatology, University of Kansas School of Medicine. Tenth Edition.

DISEASES OF THE SKIN, bq Sutton and Sutton, father and son, is a rather large single volume as it contains 1549 pages. This edition, the tenth, is larger than the ninth, and more complete. It contains additional material that has been developed since the editing of the ninth edition four years ago. The book has been brought up to date by the description of new disease entities, and by giving any new trends of thought in dermatology that have developed since the last edition. The book has ten color plates along with 340 illustrations in black and white. The authors give their own opinions freely, but have also included an enormous bibliography. The diagnosis of syphilis is gone into as thoroughly as it could be done in this type of book.

This book, with its numerous references, is almost an encyclopedia in scope as far as dermatology is concerned, and should serve as an excellent reference book for any one practicing dermatology, as well as for any one practicing general medicine.

This excellent book by Drs. Sutton and Sutton is published by the C. V. Mosby Company, of St. Louis, and the price is $15.00.

WOMAN'S AUXILIARY

(Continued from last page)

Mrs. Bernard Patrick, president of the auxiliary, took charge.

Dr. Boswell talked enlighteningly on the work and future of the Sanatorium. With his usual terseness, Dr. W. A. Evans brought greetings and presented Dr. Hutton, who discussed in a most informing manner the last hundred years of medical progress. He touched frequently on the contributions of Southern medical men, but allowed his remarks to take in the social implications and changing views resulting from medical progress. His address, which will appear soon in the MISSISSIPPI DOCTOR, was greatly appreciated.

Pursuing the study of how the doctor's wife may aid the committees of the State Medical Association in disease control, Mrs. I. P. Burdine, Jr., Amory, and Mrs. T. H. Rayburn, Pontotoc, gave instructive talks. At the business session, a motion was carried for the auxiliary to assist with the expenses of the president to the state meeting in May.

We hope Mrs. J. H. Green, of Tupelo, seriously ill in the Baptist Hospital in Memphis, will soon be on the road to recovery.

Mississippi State Medical Association

Organized in 1867 **Next Meeting: May, 1940, Jackson**

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COMPONENT SOCIETIES

County Society	President	Secretary-Editor	Time of Meeting
dams	James C. Rice, Natchez	Fred Geisenberger, Natchez	Third Tuesday 7:30 p. m.
lcorn	G. W. Googe, Rienzi	Bernard Patrick, Corinth	Third Thursday 7 p. m.
mite	W. T. Thornhill, Crosby	D. H. Thornhill, Crosby	Second Thursday 7:30 p. m.
entral Medical	W. H. Watson, Jackson	H. C. Ricks, Jackson	First Tuesday 7:30 p. m. Omit July and August.
laiborne		G W. Acker, Port Gibson	
larksdale and Six	W. H. Williams, Tunica	L. B. Austin, Rosedale	1st Wed. March and Sec. Wed. Nov.
larke-Wayne	W. P. Gray, Waynesboro	Albert Hand, Shubuta	
oahoma	L. H. Brevard, Clarksdale	Julius L. Levy, Clarksdale	
oast Counties	B. B. O'Mara, Biloxi	D. L. Hollis, Biloxi	
elta Medical	G. Y. Gillespie, Greenwood	F. M. Acree, Greenville	Sec. Wed. April and Oct., 2 p.m.
eSoto	Henry M. Wadsworth, Hernando	L. L. Minor, Memphis, Rt. 4	
ast Mississippi	C. H. Harrison, Philadelphia	Guy T. Vise, Meridian	
ranklin	C. A. Everett, Bude	L. Costley, Meadville	
ssa-Shar-Warren	Walter E. Johnston, Vicksburg	Alston Callahan, Vicksburg	
efferson	C. R. Senter, Byhalia	Herbert Phillips, Holly Springs	Second Thursday.
arshall		W. T. Harper, Fayette	
ewton	W. L. Henton, Decatur	Dudley Stennis, Newton	
orth Mississippi	C. M. Speck, New Albany	A. H. Little, Oxford	Third Wed., Jan., April, July, Oct.
ortheast Miss.	J. W. Lipscomb, Columbus	A. J. Stacy, Tupelo	Sec. Tue., Mch., June, Sep., Dec.
ike	E. M. Givens, McComb	T. Paul Haney, Jr., McComb	First Thursday
ontotoc	J. H. Windham, Ecru	E. B. Burns, Pontotoc	
outh Mississippi		Van C. Temple, Hattiesburg	
unflower		H. B. Cottrell, Indianola	
allahatchie	G. Lacy Biles, Sumner	J. E. Powell, Charleston	
ate	W. D. Smith, Senatobia	J. S. Eason, Coldwater	Second Wednesday
op.-Law.-Lin.-Wal.	J. J. Pittman, Tylertown	R. B. Zeller, Hazlehurst	Sec. Tue., March, April, June, Dec.
ebster	E. T. Arnold, Bellefontaine	H. K. Curry, Eupora	
ilkinson	C. E. Catchings, Woodville	E. M. Butler, Centerville	
Winona District		S. B. Caruthers, Grenada	

Interpreting Medical Literature

STAFF OF REVIEW

Dermatology—James G. Thompson, Jackson.

Eye—S. S. McNair, Jackson.

Ear, Nose and Throat — Alston Callahan, Vicksburg.

Obstetrics and Gynecology—J. W. Lucas, Greenwood.

Orthopedics—Thomas H. Blake, Jackson.

Pathology and Clinical Pathology—John C. Henthorne, Jackson.

Pediatrics—Harvey F. Garrison, Jackson.

Public Health—Felix J. Underwood, Jackson.

Radiology and Roentgenology—Karl O. Stingily, Meridian.

Surgery—W. H. Parsons, Vicksburg.

Urology—Temple Ainsworth, Jackson.

Discussion and comments are invited.

EYE

EARLY TREATMENT OF EYE INJURIES.—This paper will be limited to some of the more common injuries to the lids and eyeball not requiring major procedure.

Early treatment of any injury is obvious, but I wish to stress some of the special reasons which we already know but seem to need rehearsing for early and careful treatment of the eye.

Enucleation of an eyeball is a simple operation, but to save vision or even the ball will frequently tax the ingenuity of any oculist.

With more car wrecks, lacerated and penetrated lids and eyeballs are on the increase. The eyelids when injured swell very much and rapidly, soon becoming so distorted that it is difficult to get good approximation, cosmetic affects and to restore function. If the lacrimal canals are severed it is very necessary that they be closely approximated if their function of conveying tears is restored. Their approximation is more exact if a tear duct probe can be inserted while suturing and occasionally after the swelling has subsided.

The conjunctiva, with its good blood supply resists infection, heals rapidly. Being loosely attached and elastic over the ball, it can be easily repaired or used in covering corneal wounds. An entangled object can be picked up with forceps and clipped out with surrounding tissue if necessary without permanent damage. Soon after injury congestion and edema distort conjunctiva so that it is difficult to locate a foreign body or trace its course in diagnosing its intraocular entrance. Then too, congested conjunctiva will not anesthetize very well.

As it is necessary that the cornea be transparent to transmit light rays it has no blood vessels, its nutrition coming from the lymph circulation. So it has a low resistance. It is covered by a delicate spiderweb-like epithelium membrane which is very easily broken.

Friction of a foreign body on the conjunctiva while the lids are in motion causes pain, and the tragedy of an embedded object beyond conjunctival contact is that it causes little or no pain until inflammation and probably infection has begun.

The removal of an embedded foreign body should not be attempted without a good anesthesia, 2% to 4% cocain solution. An eye spud, cataract knife or a large straight surgeon's needle whet slightly dull may do. A loop will aid greatly if the object is small. Place the point of the instrument down by its side and flip it out, removing all strain, if any. This may require the use of an eye curet. Stain is most common from iron or iron dust on emery rock. It invites infection by keeping up irritation and would not be present if the patient had reported early. Irrigate with some mild antiseptic solution. If the injury is deep it is probably best to instill atropine and bandage. If this has been carried out within 24 hours, recovery will usually be prompt without further care. If delay, there may be infection producing a traumatic ulcer which may leave a scar, impairing vision, especially if the ulcer is over the pupillary area.

The cornea is only about one millimeter in thickness. A small steel splinter may penetrate but partially remain in its wall necessitating removal before the constant pressure of the lids causes it to drop into the anterior chamber. It could be removed safely only with a magnet or by inserting a cataract knife through the cornea and beneath the object to prevent its slipping in while manipulating its removal.

For penetrations and lacerations of the anterior segment of the eyeball, if not so badly mutilated, we have the conjunctiva at our disposal which can be used almost at liberty for protective covering after thorough cleansing, snipping off the prolaps iris if protruding and suturing the larger wounds. If done soon after the accident this stops the escape of vitreous humor which does not reform, prevents further prolapse of the iris, allows the aqueous humor to reform, supports the defect and shuts out infection. Of course, there is a chance of bacteria entering at the time of injury, even gas bacilli, but the gush of aqueous humor has washed back a great part of them and the eye seems to withstand infection better with the flap.

It requires very sharp needles and handling with care and precision to avoid further disaster while suturing an eye but with reasonable care it is a simple procedure to prepare a conjunctival flap and suture it in place. If the injury is in the periphery of the cornea the conjunctiva is to be circumcised one-third to one-half its circumference, as necessary, extending each end of the incision a little outward, undermining it sufficiently to pull over the defect, then suture the flap at each end to the conjunctiva. A strip may be dissected, leaving each end attached, brought across the center of the cornea and anchored in the same way. Or, according to Knaps' method, the conjunctiva is completely circumcised, undermined and, with a purse string suture, the entire cornea is covered in cases of central or entensive lacerations. Stitches are removed on the sixth or eighth day and the flap retracts gradually to its normal position. It will not adhere to normal corneal tissue. Atropine and yellow oxide of mercury ointment are instilled and the eye bandaged. In cases seen late sometimes the iris is so firmly adhered that instillations of atropine will not free it. With these cases I prefer giving subconjunctival injections of atropine and adrenalin chloride 1 to 1000, which in my experience has been more effective than any other method.

Of course it is the routine after giving tetanus antitoxin, to administer parenteral injections of some foreign protein which is supposed to have selective effect on the eye. Boiled sweetmilk or some of its manufactured preparations have been most often used by me. From even my own experience with this method, which is the generally accepted method for this type of injury, I can recall a striking difference in saving eyes treated early as contrasted with those treated late.

A corneal wound at or near the sclerocorneal junction being over the ciliary region is considered more likely to cause sympathetic ophthalmia than elsewhere. Burnham, in reciting a number of cases, states that sympathetic ophthalmia will seldom occur if the wound is covered with a conjunctival flap. He also states that the reason for less sympathetic ophthalmia at the present is prompt and improved treatment of the eye.

Burns should be cleansed and anodine lubricants, as 2% holocain ointment, applied often. Keeping the palpable and orbital conjunctiva separated by passing a cotton tipped applicator saturated with the ointment between them prevents adhesions.

Hubbard*, discussing the literature and giving his own experience with chemical burns, comes to a conclusion that neutralizing alkalies should never be used as they cause a precipitate that continues the destruction of tissue. He advocates, after washing the eye with water thoroughly, weak acids such as 2% acetic acid or weak vinegar at the outset, and if severe in either acid or alkali burns tanic acid with 2% silver nitrate or 1% aqueous solution of rosanilin.

It is imperative that all chemical burns be thoroughly cleansed with water as soon as possible and no water used in them afterwards. Atropin and compresses used according to indications.

THE PROPHYLAXIS OF OPHTHALMIA NEONATORUM WITH SILVER NITRATE, Wm. F. Hartman, Pennsylvania Medical Journal, 43:639, (February), 1940.

The author has statistics to prove that with the use of 1% silver nitrate solution in the eyes of the newborn immediately after birth, there were .41% with ophthalmia neonatorum of specific origin, while with the use of 1% silver acetate, ophthalmia neonatorum occurred in only .09% in over 3000 cases. He also states that the silver acetate causes less chemical conjunctivitis than does silver nitrate. His conclusions are:

"1. Silver acetate in one per cent solution is an effective prophylactic against ophthalmia neonatorum.

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*W. B. Hubbard, Archives of Ophthalmology, June, 1938.

"2. Silver acetate causes less chemical conjunctivitis than silver nitrate in the same concentration.

"3. Silver acetate is entirely safe as it will not make a solution of sufficient concentration to injure the eye.

"4. Because of the foregoing factors it would be well to amend our laws so that silver acetate would replace silver nitrate in the Credé prophylaxis."

COMMENT

I think the author has done a very fine work in bringing the use of silver acetate in the eyes of the newborn to the medical profession's attention. It has been used in Europe and India for some time with satisfactory results. Some of us are now using 1% silver acetate in the eyes of the newborn and I wish many of the physicians of Mississippi would try it and keep some records regarding it as compared to the use of silver nitrate. Later on after having used it for a period of time, we should in Mississippi, report on its relative value. I shall be glad to hear from the physicians after they have used it for a time, along with their records and results. I believe one of its greatest advantages over the nitrate is that it cannot be made strong enough to damage the eye, whereas, silver nitrate in too strong a strength has damaged many eyes. The acetate should be fairly fresh and is used the same way as with the silver nitrate.

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EVALUATION OF THREE METHODS COMMONLY USED IN EXAMINATION OF EYES OF SCHOOL CHILDREN, B. C. English, B. C. Shmukler and A. Cowan, Archives of Ophthalmology, 22: 1068, (Dec.), 1939.

Every physician who has done many refractions, has been confronted with the parents of a patient who stated that the child had normal vision at the school examination, but now she needs glasses. The reason for these conflicting statements usually lies in the inadequacy of the test done at school.

"This study was undertaken for the purpose of determining the relative value of each of the following methods: the visual safety telebinocular method (Betts), the N. E. A. M. A. method of testing vision, and the ordinary routine medical inspection in schools. These tests were done on 485 children of the third grade. Their ages ranged from 8 to 10 years. Of the 485 children, 301 failed to pass one or more of the preliminary tests. One hundred and eleven were given complete ophthalmological examination, using atropine as a cyclopegia. Of this one hundred and eleven, only twenty were found who had passed all three tests along with the ophthalmologist's examination and these were considered as having no visual disability."

"The N. E. A. M. A. method was found to be the best method of determining whether a child needed the attention of an ophthalmologist. By the N. E. A. M. A. method 83.3% of the children thought to need the services of an ophthalmologist did need some correction. There were only 14.5% who passed this test that did need some correction. Only 18.6% that were needlessly referred to an ophthalmologist as they did not need correction.

"By the visual safety telebinocular test (Betts) and the routine medical inspection in school the errors were much larger than with the N. E. A. M. A. method. Unless eye symptoms are present the N. E. A. M. A. test may fail to detect hypermetropia, while the Betts method may fail to detect either myopia or hypermetropia.

"The N. E. A. M. A. test includes the Snellen chart test for distant vision at twenty feet as well as an examination to discover any signs or symptoms which suggest ocular disturbances. These signs and symptoms will be associated with defects of visual acuity and diseases of the eye. The symptoms often associated with defects of visual acuity are an unsatisfactory test with Snellen chart, holding of head in peculiar position while reading the chart, inability for sustained reading without suffering definite or indefinite discomfort even though distant vision is 20/20, or a history of blurred vision. The symptoms and signs often associated with diseases of the eye are redness of eyeball, scaling and redness of eye lids, discharge from eye, especially the inner canthus, and gross abnormalities of cornea and pupil.

COMMENT

I have never placed much credence on eye examinations done by school authorities because the tests should include not only visual acuity but a definite and painstaking history, muscle balance test for near and far, ductions, near point of convergence, accomodation, extraocular movements and tests for stereopsis. I believe these tests can only be done properly by a competent ophthalmologist. Even at times when these tests are not entirely satisfactory, then I believe atropine should be used as a cycloplegia and the child refracted.

UNILATERAL EXOPHTHALMOS AND ITS SURGICAL TREATMENT, Algernon B. Reese, M.D., Pennsylvania Medical Journal, Vol. 43, No. 5, pp. 605, February, 1940.

This article is one of the best I have ever read dealing with a most interesting, as well as an often puzzling condition. He reports 161 consecutive cases of unilateral exophthalmos, the diagnosis in all cases having been proved by biopsy or other surgical measures. Included in the series of cases were 21 lesions which did not produce unilateral exophthalmos but were considered potentially capable of doing so.

Dr. Reese classifies the etiology of unilateral exophthalmos into three classes, depending on the source of the lesion causing it. The classes are as follows: 1. A lesion primarily in the orbit (105 cases). 2. A lesion in region contiguous with orbit (47 cases). 3. A systemic or distal lesion (12 cases). Of the lesion primarily in the orbit hemangioma (24) is most common, followed by pseudotumor (16), meningioma (13), dermoid cyst (10), neurogenic tumors (10) and sarcoma (10), and other causes account for the remaining 22 cases. I was surprised at the large number of pseudotumors found (16) as there is very little in the literature concerning them and of the 30 cases analyzed in the literature 15 of these had exeneration of the orbit for a supposed tumor which an histological examination proved to be a chronic inflammatory mass.

"The most important points in differentiating a pseudotumor from a real tumor are the following:

1. Primary tumors tend to occur at an early age; the average age for the pseudotumor is 45 years.

2. The onset of exophthalmos in primary tumors is insidious and gradual; in pseudotumors it is relatively sudden, developing within a few weeks in most instances.

3. Primary tumors of the orbit are never bilateral; pseudotumors affect both eyes in one-third of cases, the second eye becoming involved in from 4 to 9 months after the first.

4. Primary as well as secondary tumors of the orbit not infrequently show radiographic changes of the orbital bones; pseudotumors characteristically do not.

5. Primary tumors usually cause no pain and no edema of the conjunctiva or lids; pseudotumors cause some pain and some edema in one-half the cases."

Lesions adjacent to orbit causing unilateral exophthalmos (47 cases) are distributed as follows: From new growths in nasopharynx 19, new growths in antrum 11, in ethmoids and/or sphenoids 3, in ethmoids 2, from malignant melanoma of choroid 4, and miscellaneous causes 8. Lesions arising from systemic or distal lesions were (12) as follows: From metastatic new growth 7, and from Hodkins disease 2, lymphatic leukemia 1, Schieller Christian disease 1, and gummal 1.

The diagnosis of etiology of this condition was made from history, clinical examination, x-ray, aspiration or surgical biopsy.

Dr. Reese places all surgical procedures in three classes: 1. Local excision of the lesion. 2. Enucleation combined with local excision of the lesion. 3. Exenteration of the orbit. "In performing an exenteration the skin of the upper and lower lids are left. The skin of the upper lid is inverted upon the roof of the orbit and the skin of the lower lid is used at time of operation to cover the remainder of the orbit as this leaves a clean, non-discharging, odorless orbit one week after the operation.

COMMENT

I believe to determine the etiology of unilateral exophthalmos to be one of the most difficult tasks an ophthalmologist is called upon to perform. Of the cases I have seen the diagnosis has been difficult and often has to be made after operation. At the present time I have under my observation a young adult with unilateral exophthalmos of six months' duration. I explored his orbit by the Kronlein method three months ago and found no cause for his exophthalmos. At present time he still has 20/15 vision in operated eye without other symptoms. He has been thoroughly studied and no cause for his exophthalmos has so far been determined.

—S. S. M.

EAR, NOSE AND THROAT

TORANTIL (Histaminase).—Because of its

remarkable pharmacologic properties and apparent etiologic relation to certain clinical entities, especially traumatic shock and anaphylaxis, histamine is one of the most important substances which influences body function. In the human being, intramuscular administration of a small dose of histamine generally produces headache, vertigo, flushed face, and urticarial wheal at the site of the injection while larger amounts may cause a profound fall in blood pressure and symptoms identical with those observed in traumatic or anaphylactic shock. There is a striking similarity between local effects of the administration of histamine and those following tissue injury by physical, thermal or chemical means, such as scratching, burning or freezing. The damaged cells may conceivably produce histamine which acts as a noxious factor. During anaphylactic shock the substance is liberated into the circulation which causes the characteristic phenomena to be possible to produce the identical symptoms in normal animals by cross circulation with or by administering blood or lymph from severely shocked subjects. According to one theory, which is supported by considerable experimental evidence, anaphylactic shock and allergic disorders are essentially manifestations of histamine poisoning.

Although histamine may serve a useful purpose (acting, for example, to increase the blood supply in certain tissues and to stimulate gastric secretion) it must be considered a noxious substance when present in excessive amounts; it is strange, therefore, that various tissues in human organisms, through specific enzyme action, detoxify histamine. In 1915 Eustis demonstrated that a dose of histamine lethal for guinea pigs can be completely inactivated by incubation with liver pulp from the common turkey buzzard at 38 degrees centrigrade for twenty-four hours. Mixtures of histamine incubated with liver produced no histamine effect, while control solutions containing histamine alone caused death of guinea pigs within six minutes from spasm of the bronchioles and suffocation. Eustis expressed the view that the action may be due to some enzyme since heating the mixture of histamine and liver to boiling temperature resulted in inhibition of the substance responsible for the inactivation. There is little doubt that "histaminase" was the detoxicating agent in these early experiments. Best showed that the histamine present in and responsible for a large proportion of the vasodilator activity of extracts of normal lung disappears during autolysis.

Since perfusion experiments indicate that in the dog the kidney contains more histaminase than any other tissue with the exception of the intestine, it would seem that this organ may be particularly adapted to the inactivation of histamine in the intact organism. The possibility is likewise mentioned that the kidney is particularly sensitive to histamine and that the high concentration of histaminase exerts a protective action. Possibly large amounts are present in the intestinal wall since the amine is destroyed during passage from the lumen of the gut into the circulation. It is not improbable that the remarkable property of intestinal mucosa to prevent local anaphylactic reaction, as reported by Scholer, is due to the histaminase present therein.

On the theory that many allergic disorders are attributable to inadequate detoxication of histamine formed in the alimentary tract (food allergy) or released within the body, and may therefore be corrected by histaminase, Torantil has been subjected to study in prominent clinics of North America. Favorable responses have been observed in a variety of affections, including asthma, hayfever (vasomotor rhinitis), urticaria, and dermatitis of allergic origin. Remarkable results have been secured in some patients hypersensitive to insulin, drugs, serum and physical agents, particularly cold. Marked improvement after treatment with Torantil has also been reported in some cases of acne.

Because of the known allergic etiology of bronchial asthma and hayfever, the use of Torantil has been recommended in these disorders, and the available evidence indicates that a favorable response may be expected in a considerable percentage of patients. In some of the recorded cases of asthma in which marked symptomatic relief was obtained, as shown by disappearanec of stridor and respiratory difficulty, the attacks promptly recurred on cessation of Torantil treatment.

The results in hayfever have been encouraging. Thus, in a number of cases studied during the period of preliminary investigation, symptoms were sufficiently relieved to enable the patients to dispense with specific immunization. Prickman investigated the effect of Torantil in vasomotor rhinitis, since in this disturbance one may observe objectively changes which may occur from time to time. Of 26 carefully selected and studied cases, definite relief was obtained in 9 (34 per cent); questionable results in 4(15 per cent); and no relief in the remaining 13 cases (50 per cent). On the other hand, striking results were observed in certain cases in which many different means of relieving the distress had been tried without benefit. One patient with vasomotor rhinitis due to food sensitivity whose condition was greatly improved by Torantil experienced distressing abdominal cramps on increasing the dose beyond a certain point. The patient continued to employ the material but had to be careful with the dosage.

Clinical tolerance seems to be good, but Torantil contains protein of hogs (about ¾ grain per tablet). Therefore, persons known to be hypersensitive to hog protein (pork, ham, bacon, etc.) may be sensitive to Torantil and should be carefully observed for signs of an unfavorable reaction.

COMMENT

We have used this drug on approximately twenty-five cases during the last two months. At the present writing, many of the cases have been benefited; a few long standing chronic cases have obtained dramatic relief. We do believe, however, that this is another milestone along the road towards proper handling of allergic diseases and recommend the study of this therapeutic agent.

—A. C.

OBSTETRICS

THE EFFECT OF METHODS OF DELIVERY, PARTICULARLY CESAREAN SECTION, ON FETAL AND NEONATAL MORTALITY, Herbert C. Miller, Western Journal of Surgery, Obstetrics and Gynecology. Vol. 48, No. 1, p. 13.

In recent years there has been a decided increase in certain clinics, in the incidence of operative intervention at the time of birth of the fetus. The explanation for this so-called radical obstetrics is said to be due to the greater emphasis that is being placed on obtaining a living and healthy infant. Without attempting in any way to ascertain the part cesarean section should or should not play in obstetric management, the fetal and neonatal mortality in a series of cases have been investigated with the purpose of determining the relative safety of this method of delivery for the fetus. Dr. Miller investigated 415 infants born by cesarean section and 2,795 infants whose mothers were delivered by other methods at the New Haven Hospital.

The total infant mortality of infants born after cesarean section was higher than that of infants born spontaneously or by low forceps delivery by virtue of the fact that the incidence of premature infant births is significantly higher in the former than in the two latter groups. The higher incidence of premature infants born by cesarean section is due to the significantly higher incidence of mothers with certain complications of pregnancy delivered by this method.

The mortality among live-born premature infants is determined almost wholly by their birth weight. It is not apparent that the type of delivery or the presence of complications of pregnancy in the mothers determines the viability of the live-born premature infant significantly.

The full-term fetus delivered by cesarean section has as good a chance for survival as the full-term fetus delivered spontaneously or by low forceps and a significantly better chance than the full-term fetus delivered by breech extraction or version and extraction.

While the mortality among infants delivered by section is significantly higher among those whose mothers' pregnancies were complicated by placenta previa and premature separation of the placenta than among those whose mothers' pregnancies were free of complications, the significantly higher mortality is not due to the operation itself but is due to the fact that the greatest percentage of all mothers with these complications are delivered by this method. Toxemia of pregnancy in the mother apparently had no harmful effect on the full-term fetus or infant.

* * * *

ANESTHESIA IN CESAREAN SECTION, Kenneth M. Heard, Surgery, Gynecology and Obstetrics, Vol. 70, No. 3, pp. 657.

The author feels that the type of anesthetic used in cesarean section, while not so important to the mother, plays a very definite part in the baby's start in life. Not a few fail to survive the first few hours because their respiratory mechanism is unable to function properly, due to depression by the anesthetic or sedative. It is impossible to anesthetize the mother by inhalation or narcotics without anesthetizing the baby. Too often the respirations remain unsatisfactory and atelectasis leads to pneumonia or death.

In an analysis of 279 cesarean sections performed at St. Michaels Hospital, Toronto, he condemns the use of ether by itself or combined with the gases in all types of cases and shows the more favorable effect on the infant in all types of cases when spinal anesthesia was used. If there are objections on the part of the patient or surgeon to the use of spinal anesthesia, the alternative is either cyclopropane or nitrous oxide alone without ether. Ether, by itself or added to these gases, is very definitely depressing to the fetus and should be used only after the most careful consideration of the relative merits of spinal anesthesia. The bad effects of ether reaches its peak in the abnormal baby or with heavy sedation in the mother. General anesthesia had best be avoided unless the obstetrician is reasonably sure that the baby is normal and the anesthetist confident that he can complete the work with gas alone.

COMMENT

This article is a condemnation of the use of ether in cesarean section on account of its depressing effect on the baby. I have always preferred spinal in my sections not only because the baby is not affected by its use but also because of better uterine contraction and less bleeding than when a general anesthesia is used. The pre-operative hypo is not given until the baby is being extracted.

—J. F. L.

PEDIATRICS

EXANTHEMA SUBITUM (Roseola Infantum) —Louis H. Barenburg, and Greenspan, American Journal of Diseases of Children, 58:983 (November) 1939.

"Exanthema subitum (roseola infantum) is one of the mildest exanthematous diseases to which infants under two years are subject. It possesses, however, considerable medical interest, because its origin is unknown and because there is a good deal of confusion in differentiating it from other exanthematous diseases."

"It is obvious that a study of cases of this disease within the confines of a child-caring institution has marked advantages over the study of an equal number of cases in hospital or private practice." An epidemic of exanthema subitum at the Home for Hebrew Infants, New York, afforded the writers an opportunity for a systematic clinical and blood study.

"Comparatively little is known about the contagiousness of the disease."

"Most authors have emphasized the fact that roseola infantum occurs primarily among children under 2½ years of age." Fifty of the writer's patients (93%) were under two years. "The youngest was 4 months old. There was only one child in this group who was older than the expected age at which exanthema subitum usually occurs; this child was 38 months old."

"The sex incidence was about equally divided; twenty-six boys and twenty-eight girls. . . ." Most observers have stated that the seasonal incidence is not characteristic. They have indicated, however, that most cases of roseola infantum occur during the winter and early spring, associating this syndrome with the prevalence of acute infections of the upper part of the respiratory tract." The writers found that the greatest number of cases occurred during the fall. "Winter and summer were next in prevalence. October was the outstanding month with twenty-one cases."

"Compared with measles, scarlet fever and other exanthematous diseases, roseola infantum is a disease of but slight importance in regard to symptoms. In the majority of cases the symptoms were not outstanding. The onset was acute in all, with a temperature between 102 and 103 degrees F., and there was the usual picture of an acute infection of the upper part of the respiratory tract with slight coryza and congestion of the tonsillar and pharyngeal regions. In two infants follicular tonsillitis was associated with the onset. In one instance the disease was ushered in by a convulsion. In two others diarrhea and vomiting were the outstanding symptoms at the onset. Generally the children were comfortable, rested well and took nourishment."

"Fifty-five white blood cell counts and fifty-eight differential counts were done in 21 cases. A total white cell count of 6,750 and a 70% lymphocyte count were taken as indicating leukopenia and lymphocytosis, respectively. In 16 cases there was leukopenia, the count ranging from 4,500 to 6,750 at some time during the course of the illness. In the other five cases the white cell count ranged from 7,000 to 18,000. Nineteen children showed lymphocytosis at some time during the course of the disease."

"Analysis of the blood findings in relation to the day of the disease reveals that lymphocytosis was present in 66 per cent of the infants on the third day; it reached its maximum, affecting 100 per cent of the infants, on the fourth day, remained in 88 to 80 per cent on the fifth and sixth days and finally dropped, being present in 75% per cent of the children on the seventh day. In contrast, only 50 per cent of the children had leukopenia on the third day and 64 per cent on the fourth day. From that point on, there was a steady decline, so that on the seventh day only 25 per cent showed leukopenia. In 6 cases the blood was studied up to the twelfth day after the onset; in three of these lymphocytosis persisted. No other changes were found in the except the presence of six per cent eosinophiles in one case; this could not be explained."

"During the epidemic 18 blood and differential counts were due on 16 children who served as controls. They presented the picture which is usually considered that of grip. The blood studies which were carried out on the third or fourth day after the onset of the infection failed in 13 cases to show lymphocytosis and leukopenia which in exanthema subitum would be expected in about 100 per cent and sixty per cent of the children, respectively. The clinical course differed entirely from that of exanthema subitum, in that the temperature continued to be elevated for about six to nine days."

"A marked lymphocytosis associated with a typical clinical course, in the absence of the rash, may indicate an abortive or modified form of roseola infantum." It is believed, therefore, that during the course of an epidemic of exanthema subitum additional cases of modified disease may be disclosed if studies of the blood are made for every child in whom a sudden febrile condition develops."

"Apparently roseola infantum confers a permanent immunity, and recurrences are rather rare." One patient in the series had a typical syndrome in March, 1938, and a similar attack six months later. "Unfortunately studies of the blood were not made on either occasion.

"Because of the mild character of the disease, complications are rarely associated with it." In the series of fifty-four cases purulent otitis media developed in only three. In spite of the purulent infection, as a result of the otitis media there were typical lymphocytosis and leukopenia."

COMMENT

Since we have a small epidemic of roseola infantum, it was thought that this abstract would be interesting to the medical profession of the state.

—H. F. G.

PUBLIC HEALTH

SPIROCHETE COMPLEMENT FIXATION REACTION COMPARED WITH THE EAGLE AND WASSERMANN PROCEDURES, by Paul T. Erickson, M.D., and Harry Eagle, M.D., Venereal Disease Information, Vol. 21, pp. 31-37, February, 1940.

Much has been done in recent years by laboratories all over the country to improve the performance of the various sero-diagnostic tests for syphilis. Criticism of the dependability of these tests often offered by those opposed to compulsory premarital and prenatal blood tests suggests room for further improvement not only in their performance but in the tests themselves.

We have all been taught, and rightly so, that the Wassermann and flocculation tests are highly specific for syphilis. However, when the fundamentals of the tests are considered, questions might be raised so to their specificity. The antigen used for the detection of reagin (syphilitic antibodies) is an alcoholic extract of beef heart muscle. The question might be asked: "How can this extract when used in the complement fixation and flocculation tests detect specifically the antibodies produced by the causative organism of syphilis?" There does not seem to be any relationship between the two. The answer probably is that the lipoids extracted from beef heart muscle have some substance common to those lipoids and Treponema pallidum. Even then, the reaction between beef heart lipoid and reagin cannot be regarded as a true specific antigen-antibody reaction such as that shown, for instance, by the Widal test. If a test for syphilis utilizing Treponema pallidum as antigen could be made practicable, it would theoretically, at least, prohibit the occurrence of positive reactions in conditions other than syphilis. The difficulty lies in the fact that, so far, no one has been able to culture pathogenic Treponema pallidum on artificial media.

A step toward the development of a true specific antigen-antibody test for syphilis was made in 1929 by Gaehtgens when he reported that syphilitic serum gives positive complement fixation with phenolized cultures of Treponema pallidum (Reiter strain) and recommended the use of the phenomenon for the sero-diagnosis of syphilis. Since then several German laboratories have reported remarkable results with the test as regards specificity and sensitivity. The phenolized suspension of cultured spirochetes (nonpathogenic) used in the reaction is sold commercially by the Sachsische Serumwerk, Dresden, Germany, under the trade name "Palligen."

The paper under consideration is an evaluation of the procedure introduced by Gaehtgens as compared with the Wassermann and Eagle flocculation tests. The encouraging results reported by German workers are confirmed.

On 490 sera from patients under treatment for syphilis, tested as a check on sensitivity, the proportion of positive results with the Wassermann, flocculation, and spirochete technics was 57, 67, and 74.5 per cent respectively; while the total sera detected (positive and doubtful) were 68.5, 76.5, and 85 per cent respectively.

On 542 Wassermann and flocculation negative sera, tested as a check on specificity, 18 showed a positive or doubtful reaction to the spirochete complement fixation test. In no less than 14 of these, a definite diagnosis of syphilis could be made on the basis of history, clinical evidence, or subsequent serologic findings.

An obvious drawback was found in the test. The phenolized spirochete suspension is anticomplementary in 1:2 to 1:3 dilutions and its reactivity is demonstrable weakened in dilutions higher than 1:10, leaving a rather narrow range in which the antigen is useful when compared to the wide useful range shown by the beef heart antigen.

The writers feel that even in its present imperfect state the spirochete complement fixation test promises to point the way to a most significant advance in the sero-diagnosis of syphilis. If the anticomplementary activity could be overcome, permitting the use of a more concentrated suspension, it might well be the present method of choice.

* * * *

The Control of Hemorrhagic Tendencies, Waltman Walters, M.D., S. G. O., February 15, 1940, Vol. 70, No. 2A, p. 308.

The author discusses the hemorrhagic tendencies of surgical patients and suggests the following grouping: (1) Those bleeding from the gastro-intestinal tract; (2) those having lesions of the biliary tract and jaundice with tendency to bleed and (3) those with certain blood dyscrasias as purpura hemorrhagica, hemophilia and pseudo-hemophilia with tendency to bleed.

Reference is made to a study of Rivers and Wilbur of 668 cases of gastro-intestinal bleeding in which it was found that in 60 per cent of the cases blood vessel in a duodenal ulcer was responsible for the condition. The ulcer was generally though not invariably situated in the posterior duodenal wall. Patients suffering a fatal hemorrhage from this cause (variously estimated to be 3 to 8 per cent) are generally in or beyond the fifth decade and the lesion is usually in the posterior wall. The author (Walters) believes that "if a determination were made of the mortality rate arising from hemorrhage in that group of patients who are brought into the hospital during the phase of active, serious bleeding, the mortality rate would be much higher." Believing this, the author rationally states that patients having a chronic bleeding duodenal ulcer should be given the benefit of surgical procedures in the non-hemorrhagic state at which time the surgical hazard is least. It is further advocated that under such circumstances, where possible, the duodenal ulcer be surgically excised and partial gastrectomy performed. In those patients (unfortunately not operated upon in the remissive stages) having an acutely bleeding ulcer the condition is one of surgical emergency and must be so regarded. The hemorrhage must be controlled if necessary by opening the duodenum and securing in appropriate fashion the gastro-duodenal artery. While only 33 per cent of patients having duodenal ulcer will actively bleed, a fatal issue occurs in the group in from 14 per cent (Holman) to 40 per cent (Finsterer) of the cases.

A bleeding gastric ulcer, always perforative in nature, should be surgically excised by partial gastrectomy. Bleeding tumors of the stomach and colon, malignant and benign, it is again remarked, not rarely produce profound anemia.

An interesting discussion is offered of the hypothetical fat soluble vitamin described as the "coagulation vitamin" or vitamin K. It is stated that recently Almquist and Klose have reported that "phthiocal" (a naphthaquinone) presented physical and chemical properties similar to those of pure vitamin K. Ten patients (studied by Butt, Snell and Osterberg) exhibiting hypoprothrombinemia were treated with this drug and in each there was a decrease in the elevated prothrombin time. The author concludes that the basic factors necessary in the prevention and control of a deficiency in vitamin K are: (1) the presence of bile of normal composition in the intestinal tract; (2) a liver physiologically capable of utilizing the vitamin; (3) a diet containing the vitamin itself or material from which it can be formed; and (4) a normal absorptive surface in the small intestine.

It was suggested by Walters, Rowntree and McIndoe (in 1929) that patients having abrupt profuse bleeding without premonitory symptoms, a train of events characteristic of ruptured esophageal varices secondary to cirrhosis of the liver, be at once transfused and later if necessary have ligation of the left coronary vein and possibly splenectomy. Several such cases managed in this fashion are referred to.

The value of cell free, normal plasma in the management of bleeding, the result of hemophilia and pseudo-hemophilia is remarked upon.

Brilliant results follow splenectomy (best performed in the interval between hemorrhagic episodes) done for purpura hemorrhagica.

* * * *

THE FREQUENCY AND DIAGNOSIS OF HIATAL HERNIA, Donald Guthrie and F. Harriman Jones, presented before the Southern Surgical Association at Augusta, Ga., December 5, 1939.

In the excellent fashion characteristic of all communications from the Guthrie Clinic, the authors discuss that increasingly frequently recognized malady, "Hernia of the Hiatus." The entity is defined and briefly the historical data pertaining to diaphragmatic hernia in general are reviewed. Attention is drawn to the fact that all herniae of the diaphragm are not hiatal herniae, and the use of this term is limited to a herniation of abdominal contents through the esophageal hiatus. They remark that the apparent dearth of cases in former years has been due to the condition either not being suspected or because roentgenologic examinations have been improperly conducted. In support of this premise, they cite their own experience and that of Harrington at the Mayo Clinic.

It is remarked that many of these herniae produce few or no symptoms and if symptoms are present they generally are not clear cut or specific of the condition. The amount and type of abdominal viscera herniated usually is in direct proportion to the symptoms. However, involvement of only a portion of the cardiac end of the stomach may produce more severe symptoms than a larger hernia involving the greater part of the stomach. The vast majority of patients found by the authors to have hiatal herniae have had an average of three erroneous diagnoses made before the true nature of the disease was found or, for that matter, even suspected. In the experience of the authors and in the experience of Harrington, the diagnostic errors consisted generally in confusing the condition with cholecystitis, cholelithiasis, gastric ulcer, duodenal ulcer, hyperacidity, secondary anemia, cardiac disease, carcinoma of the cardia, stricture of the esophagus, appendicitis and intestinal obstruction.

The authors state that one of the most constant and frequent of symptoms is pain situated beneath the lower end of the sternum, frequently projected through to the back, mild in onset, and developing shortly after eating. An excellent discussion of the symptomatology of this disease is offered, but the authors state finally that the definite diagnosis rests upon a properly conducted roentgenographic examination and certain technical points concerned with this examination are discussed.

It is not advocated that all patients having hernia of the hiatus be subjected to surgery. As a matter of fact the authors feel that only those individuals having fairly advanced symptoms ought to be operated upon. Under those circumstances, surgical attack is the only hopeful therapeutic measure available. In the milder cases, conservative management is warranted. These individuals are advised to eat frequent small meals and to remain erect for some while after eating.

The authors believe that interruption of the phrenic nerve should be done before a radical operative procedure is attempted and in certain types of hiatal hernia, interruption of the phrenic is a necessity preliminary to surgical attack. The latter operation may also at times be employed as a palliative measure.

The abdominal approach is most frequently used in the radical repair of hernia and some of the more essential points relating to the operative procedure are enumerated.

The authors report fourteen cases that have come under their observation. Nine of these were treated by conservative measures. In three instances, in addition to interruption of the phrenic nerve, repair of the enlarged hiatal opening was made. There were no mortalities and excellent end results were obtained. —W. H. P.

State Board of Health

Felix J. Underwood, M.D.

CONSERVING THE HEALTH OF CHILDREN

The private physician has an important place in any program looking to improvement in child health. With so much attention being centered upon this phase of our national welfare, it is hoped that Mississippi physicians will be fully awakened to the opportunities for preventive medicine in their private practices. To bring about a realization of the more worthy ideals of the profession, the physician of today must be as fully alive to measures of preventing disease as he is for taking care of the sick.

General preventive measures are of many kinds. Some are almost impersonal, like control of water supply, safe sewage disposal, sanitary inspection, etc. In these doctor and patient are not directly involved. Among measures which do involve the personal services of the physician are immunizations and the prevention of diseases due to nutritional deficiency. Diphtheria and smallpox as dread menaces of childhood are rapidly diminishing through immunizations, and improved nutrition is gradually reducing the high incidence of rickets, scurvy, and pellagra, and many individuals with tuberculosis are discovered by such methods are large-scale testing of adolescents before the disease passes beyond easy control. Closely related to this type of preventive work are: health education, whether by routine health supervision by physician and nurse, lectures, demonstrations, publications, school instruction, or other means of public information. "Preventive measures are communicated, person to person, by those having professional responsibilities. The participation of the general public converts this information into health measures."

The White House Conference on Children in a Democracy pointed out that there are some 35 million children in the United States under 16 years of age, and each year about 2 million babies are born. This constitutes a large section of our population, much of which can be converted into a proud national asset through early application of preventive measures.

The marked progress which already has been made is reflected in the steady decrease in infant mortality. If the rate of 1928 had obtained in 1938—when all-time low mortality rate was recorded—41,000 more infants would have died than did die. The life expectancy of children has been raised at all ages, and maternal mortality has been greatly decreased, especially during the past five years.

However, in spite of these evidences of improvement, continued efforts must be made to maintain standards and to improve child health further. That this is so becomes apparent when trends of infant, neonatal, and maternal mortality rates are studied according to geographic area, race, or economic status. The active educational and preventive programs of the past decade have helped greatly, still we cannot close our eyes to the fact that even more intensive effort must be made to reduce further the unnecessary high death rates. The vast majority of our children are dependent upon the interest and care of a private physician for their physical well-being and health.

The physician's responsibility for conserving the child's health starts with the care of the mother before the child is born. Under his supervision and guidance, many prenatal hazards will be prevented. He will give the mother special attention, in the event she has such diseases as syphilis, tuberculosis, diabetes, nephritis, toxemia or heart disease, which frequently contribute to neonatal mortality. During the process of the routine physical examination, so vital throughout pregnancy, he may discover other abnormalities in time to prevent serious complication.

When the child is born, he will supervise its routine care, placing special emphasis on nutrition and periodic health examinations. When it reaches the age of two to three months, he will immunize it against smallpox; at six months against diphtheria; at eight or nine months against whooping cough; and by the time it is a year old against typhoid fever. He will recognize the close relation between physical and mental health and so give the parents the benefit of his counsel in the emotional life of the child, so important to its future happiness.

The children of Mississippi are entitled to as good health service as we can give them. The health department has distinct responsibilities for preventing disease as does the private physician, and to achieve the highest objectives, it is necessary to work closely together.

* * * *

Eighty years a typhoid carrier is the unenviable distinction of a 101-year-old woman residing in Westchester, New York. The discovery was made when two of her great-grandchildren recently contracted the disease from which she had suffered 80 years ago, before coming to this country. It is estimated that approximately 3 per cent of all typhoid cases eventually develop into chronic carriers of the disease. In New York State over 400 typhoid carriers are registered and under supervision. A study is now underway of the typhoid carrier situation in Mississippi.

* * * *

Four more counties will inaugurate full-time health department services on April 1, according to a report from Dr. J. A. Milne, State Director of County Health Work. The new counties are Panola, Lowndes, Noxubee and Marion. The Noxubee County Board of Supervisors has voted to employ Dr. B. O. Garner as full-time director; Dr. J. H. White will head the Lowndes County Department, Dr. Ralph Sneed will head the Marion County Department, and Dr. J. W. Dugger, member of the State Board of Health staff, will act as health officer in Panola County until the Board of Supervisors makes a permanent appointment.

The following changes have occurred in the Southeastern Health District, Leflore, Marshall and Lafayette counties. Dr. R. J. Jones, Director of the Southeastern Health District (George, Greene, Stone and Perry counties) has been employed to direct the Leflore County Department; Dr. E. H. West, former physician of Purvis, will succeed Dr. Jones. Dr. Lynn D. Abernathy, who has been serving as relief officer in Tunica County, goes to Marshall County as Director. Dr. M. M. Sims, who has been serving as relief director in Holmes County, succeeds Dr. J. H. Armstrong as Director in Lafayette County. Dr. Armstrong is resigning to enter private practice.

* * * *

Dr. W. F. Walker, Director of the Division of Health Studies of the Commonwealth Fund, visited the State Board of Health during March and also the health departments of Jones and Lauderdale counties and of the Southeastern District. The chief object of the visit was to appraise the activities of these departments.

Other visitors included participants in a nutrition institute: Miss Marjorie M. Heseltine Washington, Consultant in Nutrition of the Federal Children's Bureau; Dr. Dorothy Dicken, Home Economics Research Department of State College; Miss Miriam Birdseye, Washington, Extension Service, United States Department of Agriculture. Miss Pearl McIver, Chief Consultant of the same organization, visited the health department of Lauderdale, Pike and Leflore counties, and attended an institute for public health nurses in Jackson. They discussed with Miss Mary D. Osborne, Supervisor of Maternal and Child Health Work, the census of public health nurses which is in the process of being assembled. Representatives of the Farm Security Administration, Dr. F. V. Meriwether, Regional Medical Director, and Miss Kate Fulton, Regional Chief, Community and Family Services Section, visited the State Board of Health in the interest of better co-ordination of health activities.

* * * *

Physician's record cards have recently been revised by the State Board of Health to include all items having a bearing on the professional status of the physician; such as honors or offices held, postgraduate scholarships for the further study of medicine. Detailed information with regard to changes of address as well as certifications to any other states which may occur are also to be recorded. Physicians will confer a favor by promptly reporting any changes or additions in order to keep the information up to date.

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The State Hygienic Laboratory will conduct a Malaria School, April 8-20, under the direction of Miss Aimeé Wilcox, Senior Microscopist of the United States Public Health Service. Technicians of hospital laboratories and private laboratories desiring to take the course should communicate immediately with Dr. H. C. Ricks, Director of Laboratories, making reservations. Latest technic in preparing blood films, staining, examining, etc., will be demonstrated. There will be lantern slide demonstrations as well as lectures.

This is the fourth session of this school, which is sponsored by the State Board of Health for the purpose of improving microscopic diagnosis of malaria.

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TEN LEADING CAUSES OF DEATH IN MISSISSIPPI

1938

	Total	White	Col.
Heart Disease	3166	1690	1476
Nephritis	2080	892	1188
Cerebral Hemorrhage and Embolism	1465	690	775
Pneumonia	1422	555	867
Accidental and Violent Deaths	1362	678	684
(Automobile accidents included in above	417	247	170
Cancer	1395	802	593
Tuberculosis	1164	309	855
Influenza	667	288	379
Syphilis	459	36	423
Homicide	441	86	355

1939 (Provisional)

	Total	White	Col.
Heart Disease	3455	1825	1630
Nephritis	2037	818	1219
Cerebral Hemorrhage and Embolism	1665	771	894
Cancer	1387	820	567
Accidental and Violent Deaths	1351	673	678
(Automobile accidents included in above	432	250	182
Pneumonia	1269	479	790
Tuberculosis	1086	292	794
Influenza	826	363	463
Syphilis	445	36	409
Homicide	438	71	367

MEDICAL LIBRARY

Mississippi State Board of Health

(To study the phenomena of disease without books is to sail an uncharted sea.—Osler).

NEW BOOKS RECEIVED

Link, Henry C.: *The Rediscovery of Man*, (Macmillan, 1938).

A.P.H.A.: *Standard Methods for the Examination of Dairy Products*, (1939).

Rood, Elma: *Malaria Education*, (Rural Press, 1939).

Larsell, Olof: *Neuro-Anatomy of the Sense Organs*, (Appleton-Century, 1939).

Best & Taylor: *Physiological Basis of Medical Practice*, (Williams & Wilkins, 1939).

Bodansky. Meyer: *Introduction to Physiological Chemistry*, (John Wiley & Sons, 1938).

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Society

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Merritt, Arthur H.: *Periodontal Diseases*, (Macmillan, 1939).

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Borrowing privileges of the State Medical Library are available to all Mississippi physicians. Books may now be mailed for only one and one-half cents per pound to any point in the state.

CHICKASAW COUNTY

The Houston Hospital held its monthly staff meeting for January in the lobby of the Houston Hospital on February 1 at 7:00 P.M. On account of the extremely bad weather, the meeting was postponed from January 25 until February 1. Preceding the program, supper was served during which time Miss Grace Philpot, Houston, sang several solos, accompanied at the piano by John White, Houston.

Dr. L. C. Sanders, Memphis, gave a discussion illustrated by lantern slides on "Thyroid Disease—Its Effect on the Heart." Dr. Duane Carr, Memphis, talked on "Treatment of Trauma of the Chest." Dr. Carr used blackboard illustrations with his discussion. Both papers were freely discussed by all doctors present.

The following doctors were present: Dr. L. C. Sanders, Memphis; Dr. Duane Carr, Memphis; Dr. D. H. Fondren, Maben; Dr. W. M. Dabney, Okolona; Dr. Harvey Williams, Aberdeen; Dr. E. B. Young, Vardaman; Dr. J. A. Hardin, Calhoun City; Dr. R. D. Kirk, Jr., Tupelo; Dr. Baker, Tupelo; Dr. A, P. Dunavant, Pontotoc; Dr. B. J. Shaw, Slate Springs; Dr. W. C. Walker, Houlka; Dr. J. M. Hood, Houlka; Dr. W. T. Cantrell, Houston; Dr. G. G. Armstrong, Houston; Dr. J. R. Williams, Houston; Dr. J. D. Dyer, Houston; Dr. V. B. Philpot, Houston.

COAHOMA COUNTY MEDICAL SOCIETY and CLARKSDALE HOSPITAL MEDICAL STAFF

Minutes

The Coahoma County Medical Society and the Clarksdale Hospital Medical Staff held their regular monthly meeting at the Alcazar Hotel at 12 noon, Wednesday, March 13, 1940. The minutes of the previous meeting were approved as read. Due to the absence of our president, Dr. T. M. Dye, the vice-president took charge of the meeting.

The secretary announced that at our meeting in April there will be shown a film furnished by the Lederle Laboratories on pneumonia.

Dr. E. L. Wilkins made a motion that a committee be drafted to present a resolution to the Hospital Board of Directors so that we can get a permanent technician at the Clarksdale Hospital. This committee should consist of three members, one of these members should be Dr. G. R. Post of the Health Department, and two others out of our membership. The feasibility of a technician at the Clarksdale Hospital was discussed fully by all members present.

Due to the lateness of the hour, Dr. G. R. Post's paper was postponed until the June meeting.

There being no further business, the meeting was adjourned.

March 13, 1940. Julius L. Levy, M.D.
Clarksdale, Miss. Secretary-Treasurer.

DESOTO COUNTY

The fifty-fifth session of the Mid-South Postgraduate Medical Assembly in Memphis on February 13-16, 1940, has come and gone. Attendance over 600, the program was good in every respect. The papers will be promptly printed in this esteemed publication which is the official organ of the Assembly. The president-elect is Dr. Clyde M. Speck, of New Albany, the vice-president for our state is Dr. John C. Culley, of Oxford, both of this councilor district. The efficient president for 1939-40 was our Dr. Lawrence W. Long, of Jackson. Much was said about sulfanilamide and its allied drugs; it can be used internally, externally and eternally with marked alleged benefits.

Cancer was termed weed of the body, abnormal growth spreading and destroying cells around it. To continue the analogy to a weed, cancer, like a growth in your garden, may successfully be removed from its surroundings if it is recognized and treated in early stages, but if allowed to develop and spread beyond the original site, it is difficult to control, so says Dr. Waltman Walters of the University of Minnesota.

Dr. Frank G. Torrey, of the University of Pennsylvania, defines a drunk as a man whose liver cannot assimilate the quantities of liquor that man drinks.

"One man might drink eight or ten ounces of alcohol daily for years and not be a drunkard if he is still able to oxidize and assimilate the liquor, while another might be a drunk on two or three ounces which his liver could not handle and part of which might still be circulating in his system after two or three days."

Dr. P. W. Rowland, of the University, was present, the only living member of the association, the Tri-State Medical Society, from which this present Assembly grew; he has missed few meetings and was the president in 1935 and past-president of the Mississippi State Medical Association, he has been active in both and we trust his activities will continue many more years and the retention of his good health and spirits.

Some fifteen or more years ago when the society had its original name, we had a rather sumptuous banquet at the Gayoso Hotel. Among those who were to respond to toasts was a Memphis physician and surgeon of marked ability and a gentleman par excellence who had drunk not wisely but of the spirits frumenti and when he was called upon to respond to the toast, "woman," he was scarcely able to rise to his feet, tho buttressed by the table and friends on either side, who, being in like state of semi-intoxication, were of little help. With quite a bit of reeling and a thickness of the tongue, he said rather wildly "gentlemen — woman, if it was not for the women, we would not be here," and he fell back rather than sat down in his chair, the applause was deafening and continuous for several minutes, a statement of an obvious fact. No speaker has ever been given such a tumultuous acclaim. Later this short speech privately caused the good doctor much merriment. He has now answered an alarm at the outer door and no doubt an abundant entrance was assured him above.

Dr. Ephraim McDowell, of Danville, Ky., a successful surgeon, was particularly masterful in performing lithotomies and was justly considered "The Father of Ovariotomy," as he performed the first successful ovariotomy. The patient, Jane Todd Crawford, took the chance against successful removal of her abdominal tumor. There was no anesthesia then and she kept up her courage by repeating the Psalms. McDowell accomplished the operation in twenty-five minutes. Mrs. Crawford recovered in twenty-five days and, then forty-five, lived to the age of seventy-eight.

Dr. McDowell was born in 1771, died 1830. Thus, another Southerner brought eternal fame to the country.

If a doctor's life may not be a divine vocation, then no life is a vocation, and nothing is divine.—Stephen Paget.

The first operation for ruptured ectopic gestation is credited to Robert Lawson Tait, English gynecologist, in 1883.

Loveliest of Women! heaven is thy soul,
Beauty and virtue shine forever around thee,
Bright'ning each other! thou art all divine.

As many as 500 million mackerel eggs may float on one square mile of surface during spawning time. But the odds of living are against the mackerel. For from the time the eggs are spawned until the end of the larval life—eleven weeks—the mortality is 99.9996 per cent, or only four live young mackerel from every million eggs.

Sir Humphry Davy, of England, made the first experiments with laughing gas as a pain-killer. Dr. Thomas Beddoes was his patron and co-worker. While at Dr. Beddoes' Institute, he had often noted how pain could be alleviated by laughing gas. These experiences led him to suppose that the gas might be used to dull pain in patients submitted to surgical operations. He often tried the gas on himself, and was near becoming the discoverer of anesthesia for surgical purposes, which honor later went to Dr. Crawford Williamson Long, of Georgia. In about one month the Long two-cent postal stamp, commemorating this event, will be on sale at the U. S. post-offices. Use these wherever you can, thus giving more publicity to this "boon to mankind" and its discoverer.

Charles Gabriel Pravaz was the inventor of the hypodermic needle. The heroic Serturner discovered morphine, risking his life experimenting with this drug in a pharmacy at Paderborn.

Strange to relate, these discoveries of Davy and Serturner, were decried as unworthy of scientific notice, while they were personally reviled as swindlers and quacks. Serturner turned to a very different field and studied guns and projectiles. Davy tried to invent a new kind of gunpowder.

Pravaz, a Frenchman, born in the year 1791 in a little Savoyard village. "I should not like to be a doctor without morphine at my disposal," declared a famous German physician (Serturner) at the beginning of the nineteenth century. But the full advantages of the drug could not be secured without the aid of the hollow needle and of the Pravaz syringe.

Sir James Young Simpson, professor of midwifery at the University of Edinburgh, Scotland, was the first to use chloroform to ease the pangs of labor; the date was November 4, 1847, and only six days later in an address made to the Edinburgh Medico-Chirurgical Society, he reported upon more than thirty painless deliveries. Thus promptly did he make his discovery known to the public, and thenceforward no woman need suffer the pangs of labor and the remedy was at hand if necessary to use.

Always and everywhere doctors do their best to allay pain, tho it is a "danger signal" to the body when danger threatens and utmost care should be exercised in applying these remedies especially the hypodermic needle with morphine as danger lurks here ominously.

Ask me no questions, and I'll tell you no fibs.—Goldsmith, SHE STOOPS TO CONQUER.

Daylight-saving time was suggested by Benjamin Franklin over 150 years ago.

General Sherman, tho accused with being awful handy with fire (See "Gone With the Wind") used the term in the late 90's, "new deal."

"So-long" originated in London during the Victorian era.

The term "flapper" was used in England nearly two centuries ago.

On the seventh of February, 1940, at the Graduate School Auditorium University, Mississippi, a special program was given by the State Board of Health to the members and guests of the North Mississippi Medical Society; Drs. Gray, Galloway, Ricks, Byrd and

Underwood were essayists. Dr. D. C. French of Water Valley is president and A. H. Little, M.D., of Oxford, is secretary.

We thank the State Board of Health and Dr. Felix J. Underwood for an up-to-date Roster of Physicians in Mississippi, giving correct addresses and arranged by counties.

The surgeons of ten southeastern states met in Birmingham 11-13, 1940. Reviewing the progress of surgery since discovery of anesthesia in the early 19th century, Dr. R. L. Sanders, of Memphis, president of the Southeastern Surgical Congress, said, "Every page of surgical history bears the imprint of distinguished Southerners who have contributed in an incalculable measure to scientific progress."

Dr. Sanders singled out for special praise two Alabamians, Dr. Marion Sims, Montgomery, founder of gynecology, and Dr. W. E. B. Davis, Birmingham, "conspicious in surgical circles during the first night session of the three-day assembly of doctors from ten Southeastern states,

Blessings light on him who first invented sleep; it covers a man all over, thoughts and all, like a cloak; it is meat for the hungry, drink for the thirsty, heat for the cold, and cold for the hot; in short, money that buys everything, balance and weight that makes the shepherd equal to the monarch, and the fool to the wise; there is only one evil in sleep, as I have said, and it is that it resembles death, since between a dead and a sleeping man there is but little difference.—CERVANTES—Don Quixote.

Of our doctors, Drs. Charles Whitley Emerson and Charles Morgan Hammond had a throat infection following influenza—they are all right now.

Dr. Albert Vernon Richmond suffered the loss of a brother and brother-in-law recently. We extend condolences. Dr. A. L. Emerson visited members of his family in Florida and Tennessee during the recent month. Dr. Henry M. Wadsworth and family are now comfortably located in their handsome new home.

Rt. 4, Memphis, Tenn. L. L. Minor,
March 17, 1940. County Editor.

WASHINGTON COUNTY

The King's Daughters Hospital Staff met at the Hospital on March 6, for their regular monthly meeting. It was presided over by Dr. John G. Archer. Dinner was served to eighteen of twenty-one members attending.

Report of committees:

Dr. F. M. Acree, Chairman of Committee requesting the druggists to prohibit the sale of sulfanilamide across the counter, reported that he had contacted a number of the druggists and found all agreed to co-operate, and he reported that already none of the druggists were selling the sulfanilamide without prescription.

Dr. J. W. Williams, Chairman of the Committee on Relation of the Health Department and Physicians, made the following report:

(1) Dr. J. P. Ward's object for meeting
   (a) Ask doctors to use health department in consultation on communicable diseases.
   Health department not treating.
(2) Syphilis—question as to whether it is being treated properly from standpoint of patient and also that of doctor.
   (a) Possibility of dark field examination service for indigents.
   All specimens being taken to Dr. E. T. White.
   (b) Trailer for treating syphilis—
   Would cost $6,000 or $7,000.
   Would add more expense to taxpayers.
   Would discourage patient from making effort to get to regular clinics.
(3) Death certificates—more care in finding them out.
(4) Rabies vaccination and tetanus antitoxin, both should be treated by physician.
   Rabies—14 vials vaccine cost $2.50.
   Should health department treat cases or should private physicians?
   City doctor for city indigents.
   Tetanus—not public health problem.
(5) Pneumonia serum furnished by counties. Should we have Washington County Health Department get pneumonia serum? Committee says no.
(6) Any doctors have problems that need publicity?

The advisory committee composed of Drs. Hugh Gamble, J. W. Williams, and J. B. Hirsch.

Dr. J. G. Archer read a notice in the form of a letter received from Mr. Boggs that, beginning March 12, there will be five lectures on gynecology and surgery for the Washington County physicians, which are sponsored by the Commonwealth Fund, Mississippi State

Medical Association and Tulane University Staff. There is a cost of five dollars for this course of lectures which are to be presented in the King's Daughters Hospital, March 12, 14, 19, 21 and 26.

Dr. F. M. Acree, Chairman of the National Physicians Committee for extension of medical service to combat the national health program and the Wagner National Health Bill, reported that the King's Daughters Hospital had contributed $25.00 to this fund. He then read in answer to a question of Dr. Williams what the committee had done and is doing in combating these measures. At that time he then took up contributions among the staff, total collection including the hospital donation amounting to one hundred dollars and over.

Dr. J. W. Williams presented a paper on "Gas Gangrene Following Apparently Clean-Cut Amputation Right Forearm Subsequent to Severe Electrical Burn."

Dr. C. E. Roach presented a paper on "Pyloric Stenosis."

Adjournment.

Woman's Auxiliary

TO THE

MISSISSIPPI STATE MEDICAL ASS'N

MEDICAL AUXILIARY ELECTS OFFICERS FOR NEW YEAR

Mrs. V. C. Temple will serve as president of the auxiliary to the South Mississippi Medical Society during the 1940-41 year. Officers were chosen Thursday at the Pinehurst Hotel in Laurel.

Other officers named are: Mrs. L. B. Hudson, Jr., president-elect; Mrs. Thomas R. Beech, first vice-president; Mrs. Z. B. Graves, second vice-president; Mrs. E. W. Green, secretary; Mrs. Eugene Busby, treasurer; Mrs. Mabel Mason, parliamentarian, and Mrs. H. C. McLeod, historian.

The nominating committee was composed of Mrs. T. E. Ross, Jr., chairman, Mrs. Temple and Mrs. Richard H. Clark.

The next meeting of the auxiliary will be held in Hattiesburg in June when local members will entertain at a party for all wives of the medical society members.

Plans for the ensuing year's work was made. Meetings will be held quarterly at the time the doctors hold their meetings. Annual "Doctors' Day" will also be observed.

Mrs. Clark, president, presided over the annual business meeting. Mrs. J. P. Culpepper, Jr., acting secretary, performed her duties. The treasurer submitted her report. Mrs. Earl Green, chairman of the layette committee, reported layettes have been placed at the Methodist Hospital and the South Mississippi Infirmary.

Mrs. Culpepper was leader of the program on Jane Todd Crawford, the first woman in the U. S. to undergo a major operation. She stated a memorial monument is being planned at Danville, Ky., where stands a log cabin in which the operation was performed. The cabin is to be made a shrine in honor of the doctor and patient.

Members present were Mrs. A. R. Perry of Laurel and the following from Hattiesburg: Mesdames Richard H. Clark, J. P. Culpepper, Jr., P. E. Smith, Nollie Felts, Eugene Busby, Van C. Temple, S. E. Bethea, Earl Green, L. B. Hudson, Jr., and T. E. Ross, Jr.

FOUR-COUNTY UNIT TO NORTHEAST MISSISSIPPI AUXILIARY

On March 26 the members of the Four-County Unit to the Northeast Mississippi Auxiliary met in Pontotoc at the home of Mrs. A. P. Dunavant, whose gracious hospitality was shared with Mrs. S. P. Donaldson, co-hostess. The president, Mrs. W. L. Orr, presided.

A delightful musical program arranged by the hostesses from Pontotoc talent regaled the guests. Then followed a brief business session at which the group agreed to contribute a definite amount to help defray the expenses of the president at the state meeting.

A refreshment course, dainty and tempting, climaxed the afternoon hospitality.

NORTHEAST MISSISSIPPI AUXILIARY

The quarterly meeting of the Auxiliary to the Northeast Mississippi Thirteen Counties Medical Society was well attended in Corinth March 12. A delicious luncheon, graced by an elaborate decorative motif of spring flowers, was highlighted by the presence of three noted guests: Dr. Henry Boswell, Sanatorium; Dr. W. A. Evans, Aberdeen; and Dr. J. H. Hutton, Chicago, Ill., who was guest speaker for the medical society. Mrs. D. W. Hamrick charmingly welcomed the out-of-town guests before

(Additional items on page 626)

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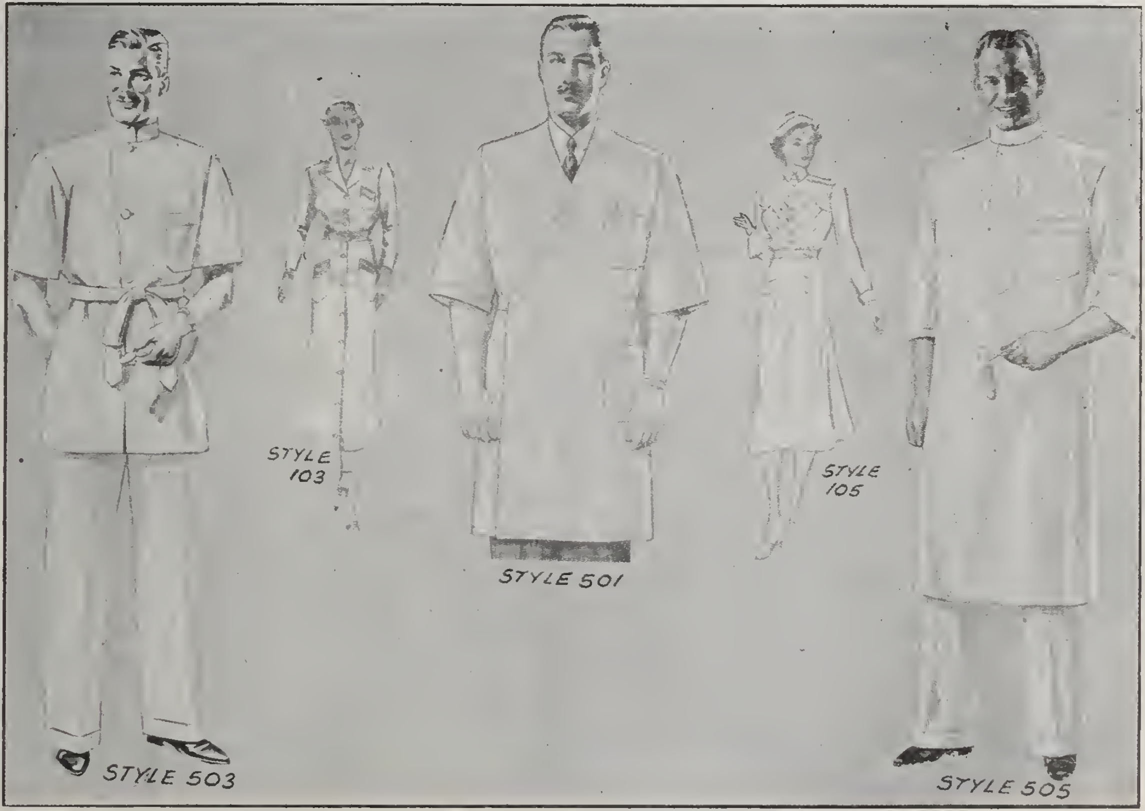
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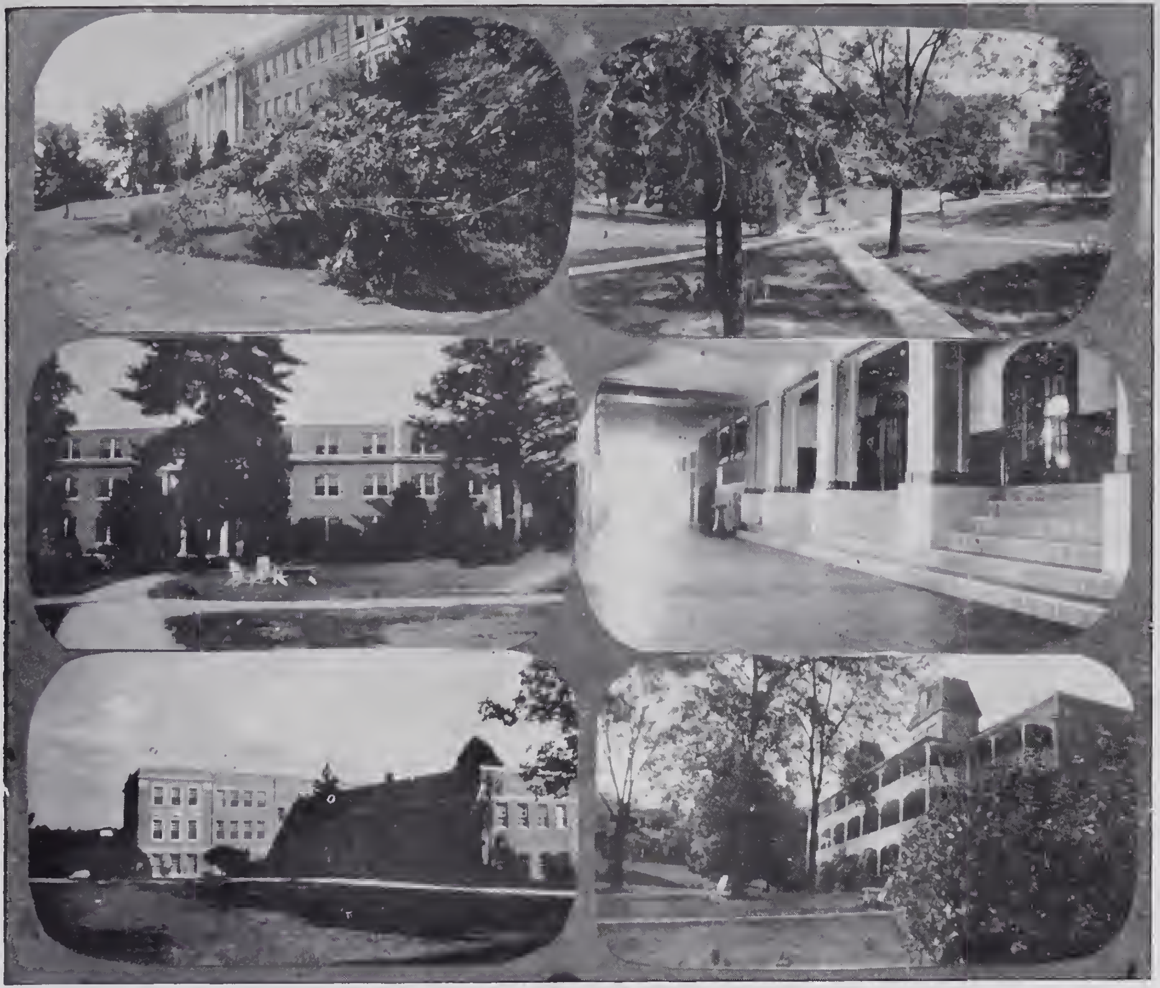

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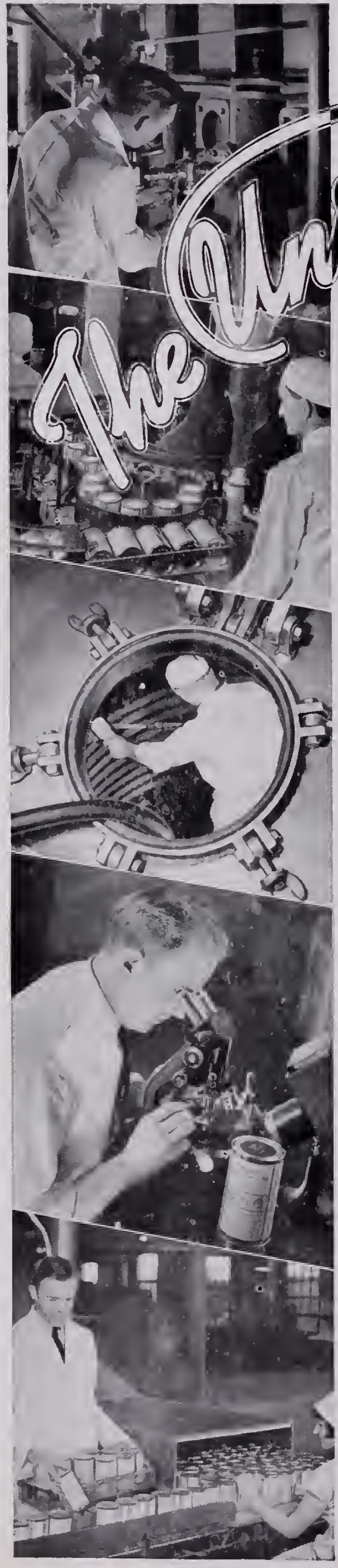

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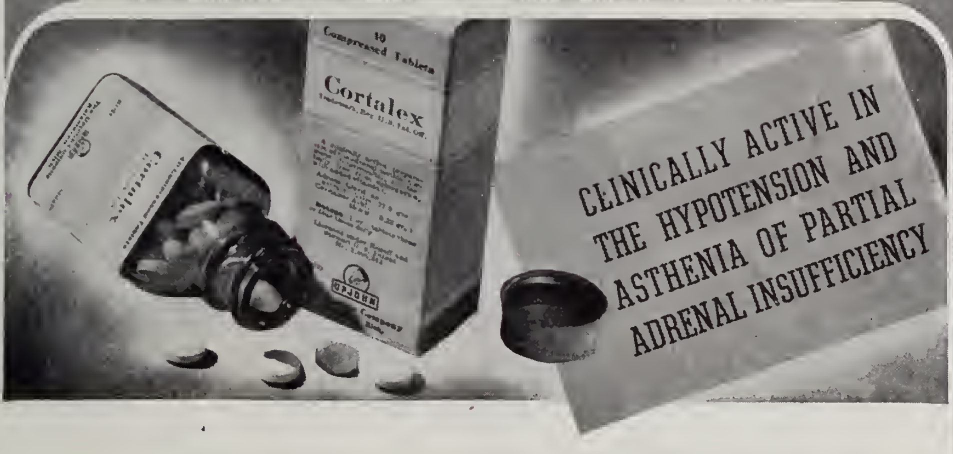
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The Chemotherapy of Pneumonia*

FRANCIS G. BLAKE, M.D.†
New Haven, Conn.

The chemotherapy of pneumonia with the sulfonamide compounds, though early attended by a considerable degree of success in hemolytic streptococcal pneumonia treated with sulfanilamide, was limited in scope and of doubtful value in pneumococcal and other etiologic types of pneumonia until the introduction of sulfapyridine by Whitby[1] in 1938. Already within the brief time which has ensued sufficiently extensive and consistent reports have appeared to establish the fact that sulfapyridine possesses remarkable therapeutic value in this disease, irrespective of pneumococcal type, bringing about rapid clinical improvement in the majority of patients and an appreciable lowering of the case fatality rate. Furthermore, the effective scope of sulfapyridine in other etiologic types of pneumonia, though still to be defined, would, nevertheless, appear to be considerable. Experience, though still limited, suggests that it is at least equivalent to sulfanilamide in hemolytic streptococcal pneumonia and that it may be of considerable value in Friedlander's bacillus infections and possibly of some value in staphylococcal pneumonia. On the other hand, there remains a considerable group of bronchopneumonias, usually of indeterminate etiology, in which it seems to be of doubtful or no therapeutic value.

Since the efficacy of sulfapyridine in pneumococcal pneumonia seems soundly established, it will not be the major purpose of this paper to provide further evidence in support of this view but rather to discuss some of the practical problems encountered in the treatment of individual patients. While the greater part of the discussion will be concerned with sulfapyridine‡ in pneumococcal lobar pneumonia, the use of this compound in other etiologic types of pneumonia will be referred to briefly and, finally, preliminary observations on the use of a new sulfonamide derivative, sulfathiazole§, will be presented.

PNEUMOCOCCAL LOBAR PNEUMONIA

The 165 consecutive cases of pneumococcal lobar pneumonia, which form the basis of this analysis are briefly summarized in Table I. Of these, 109 were treated with sulfapyridine alone, 41 received combined chemo and serum therapy and 15 were treated with sulfathiazole, with a total mortality of 8.5 per cent. No cases have been excluded, whether moribund on admission to the hospital and dying within less than 24 hours (4 cases) or dying of some other disease after recovery from pneumonia (3 cases). Comparison of the case fatality rates in the three groups is not statistically valid since a larger proportion of the group receiving combined therapy were severe bacteremic cases. Furthermore, 3 of the 4 moribund cases and 2 of the 3 dying of other causes than pneumonia fell in this group.

Dosage.—The initial dose of sulfapyridine used in the adult patients was at first 2.0 gms., as recommended by Evans and Gaisford[2]. More recently an initial dose of 4.0 gms., divided into 4 doses of 1.0 gm. each, given at hourly intervals, has been used. In infants and children an appropriately smaller dose of 0.5-1.5 gms. was used. The initial dose was followed, in general, by 1.0 gm. q. 4 h. day and night in adults, 0.25-0.5 gm. q. 4 h. or q. 6 h. in infants and children until the fifth to ninth day after onset of the disease. Variations from this general scheme of dosage in individual cases have been based primarily on the blood concentrations of sulfapyridine attained. In general, when concentrations above 10 mgm. per cent were reached, doses were cut in half or spaced at six-hour intervals. It has been our experience that high levels are more apt to occur in older individuals, probably because of less adequate excretion, than in young

---

*Read at the fifty-fifth annual session of the Mid-South Postgraduate Medical Assembly, Memphis, Tenn., February 13, 1940.

†From the Department of Internal Medicine, Yale University, Yale University School of Medicine and the New Haven Hospital, New Haven, Conn.

‡The sulfapyridine used was obtained through courtesy of Merck & Co.

§The sulfathiazole used was obtained through the courtesy of E. R. Squibb & Sons.

TABLE I.—PNEUMOCOCCAL LOBAR PNEUMONIA

Pneu. Type	Sulfapyridine			SP.plus Antipn. serum			Sulfathiazole			Total		
	No.	B.C.plus	D	No.	B.C.plus	D	No.	B.C.plus	D	No.	B.C.plus	D
I	17	5	1	17	6	2	4	1	0	38	12	3
II				4	2	1				4	2	3
III	25	0	4	1	0	1	3	0	0	29	0	5
IV—VIII	31	2	1	17	6	2	4	3	0	52	11	3
IX—XIII	5	1	0							5	1	0
XIV	14	1	1	1	1	1	1	0	0	16	2	2
XV—XXXII	17	0	0	1	0	0	3	0	0	21	0	0
Total	109	9	7	41	15	7	15	4	0	165	28	14
		Died 6.4 %			Died 17.1 %			Died 0 %			Died 8.5 %	

Cases treated at the New Haven Hospital between Nov. 1938 and January 1940.

adults and children. For this reason the size and spacing of dosage should be watched more carefully in persons over fifty years of age.

The scheme of dosage outlined has seemed therapeutically effective and has served to establish promptly in the majority of patients a blood concentration of free sulfapyridine ranging between 5 and 10 mgm. per cent. In approximately one-fifth, however, the concentration remained under 5 mgm. per cent, while in a similar number it had risen above 10 mgm. per cent by the second or third day. In our experience, however, these variations showed no consistent relation to therapeutic effect, and for practical purposes may be largely disregarded within the range of 4 to 10 mgm. per cent provided clinical response is prompt and the total sulfapyridine concentration is not excessively high.

With any given dosage the two most obvious factors including blood concentration of free sulfapyridine are variations in absorption and excretion. A less obvious, but equally important factor, is the rate and degree of conversion of free sulfapyridine to the acetyl derivative by the liver. This may vary greatly and unpredictably from individual to individual over a wide range from 15 to 70 per cent or more. Since a high degree of acetylation may precipitate hematuria, renal colic, and temporary anuria and because of the fact that a low or falling free sulfapyridine level in the blood may be mistakenly regarded as an indication for increasing dosage, it has become our usual practice to determine both total and free sulfapyridine levels in the blood during the first few days of treatment as a guide to dosage and this seems desirable, when possible.

There is difference of opinion concerning the appropriate duration of treatment following the initial fall of temperature. Since permanent recovery probably depends upon the development of specific antibodies by the patient, it has seemed desirable to continue treatment in adults until the seventh to ninth days after onset of the pneumonia and this plan has in general been followed. It is, perhaps, unnecessarily long in children, since they tend to recover spontaneously more promptly than adults. In general, it would appear that treatment may be safely stopped by the fifth or sixth days of the disease in most children.

Parenteral treatment has been resorted to when severe nausea and vomiting have interfered with adequate oral dosage and in stuporous or comatose patients. For this purpose sodium sulfapyridine is now available and may be given intravenously in 5 per cent solution in distilled water as described by Marshall and Long[3].

CLINICAL COURSE IN PEDIATRICS TREATED WITH SULFANILAMIDE ALONE

The clinical response of patients with pneumococcal lobar pneumonia to treatment with sulfapyridine alone, though in general excellent, is, nevertheless, quite variable and it is these variations from patient to patient which will be emphasized particularly. Since the material dealt with is variable with respect to certain determinable factors, such as pneumococcus type, age, day of disease when treatment was started, and presence or absence of bacteremia, the possible influence of these on the variations in clinical response encountered will be analyzed. In this analysis the toxic reaction of nausea and vomiting, which occurred in approximately 60 per cent of all patients treated with sulfapyridine, as well as other central nervous system disturbances due to sulfapyridine, will be disregarded. The clinical course will be divided into initial response and subsequent course. The data are summarized in Table II.

TABLE II.—SULFAPYRIDINE IN PNEUMOCOCCAL LOBAR PNEMONIA

	Initial Response	Subseyuent Course	No.	Per cent
RECOVERED	Crisis	Convalescence uneventful	55	50.5
	Lysis	Convalescence uneventful	14	12.8
	Crisis or lysis	Low fever 2-10 days	12	11.0
	Crisis or lysis	Relapse	4	3.7
	Crisis or lysis	Infectious complication	3	2.8
	Crisis or lysis	Toxic drug reaction	13*	11.9*
	None	Toxic drug reaction	1	0.9
			102	93.6
DIED	Crisis		1	0.9
	Temporary or none		6	5.5
			7	6.4

* plus 4 cases in other groups equals 17 (15.6%).

Variations in clinical response shown by patients treated with sulfapyridine alone.

The most frequent type of clinical response encountered was critical recovery with rapid fall of temperature to normal within 24 hours after initiation of treatment and an uneventful convalescence (exclusive of nausea and vomiting). This occurred in 55 or 50.5 per cent of the 109 cases in this group. In the second type, consisting of 14 more cases (12.8%), there was prompt recovery by rapid lysis within 48 hours and an uninterrupted convalescence. The third type of clinical response consisted of an initial rapid movement by crisis or lysis followed by a low grade fever ordinarily ranging between 100 degrees and 101 degrees F. (rectal) for a few days to a week or more without apparent cause, insofar as physical or x-ray examinations could determine. This occurred in 12 cases or 11.0 per cent. In these three groups, totaling approximately 75 per cent of the patients, the clinical response may be said to have been highly satisfactory and to have offered no serious problems apart from the distressing frequency of nausea and vomiting.

Another variation in clinical course following apparent initial recovery was relapse with fever and physical signs indicating spread of the pneumonia. This occurred in only 4 instances (3.7%), in 1 after two days of normal temperature, while the patient was still under treatment at a blood concentration of 6.8 mg. per cent, in the other 3 following discontinuance of sulfapyridine on the sixth, seventh and eighth days of the disease, respectively.

In 3 cases apparent convalescence was interrupted by an infectious complication:—in one (Type I) a serofibrinous pleural effusion of 10 days' duration, requiring drainage by thoracentesis, in another (Type V) an organizing pneumonitis with lung abscess associated with a superimposed staphylococcal infection, and in the third (Type XIII) an empyema requiring surgical drainage. All recovered.

Still another variation in clinical course following a satisfactory initial response was that due to untoward reactions to sulfapyridine itself. This occurred in 13 cases (11.9%) with otherwise uneventful subsequent course, also in 4 others which are included in other groups, making a total of 17 cases or 15.6 per cent who exhibited one or another type of toxic drug reaction to be discussed further below.

Only one patient in the recovered group (Type III, age 63, seventh day of disease) showed no apparent initial response, perhaps because of the prompt development of hepatitis followed by drug fever with rash.

The final group consists of 7 fatal cases (6.4%). One of these, a woman of 61 with advanced Paget's disease and a pneumococcus Type IV pneumonia, recovered promptly from the pneumonia but subsequently developed agranulocytosis on the twenty-second day, from which she died 3 days later. The data on the other 6 fatal cases are as follows: Case M. S., age 70, arteriosclerotic heart disease, asthmatic bronchitis and emphysema, fifth day, Type I,

bacteremic, died tenth day; Case A. A., age 83, fourth day, Type III, bilateral, died seventh day; Case I. K., age 74, arteriosclerotic heart disease, fifth day, Type III, bilateral, died ninth day; Case J. P., age 55, arteriosclerotic heart disease, congestive failure, sixth day, Type III, bilateral, died twelfth day; Case J. L., age 75, severe bleeding peptic ulcer, second day, Type III, died 7th day; Case S. D., age 67, arteriosclerotic heart disease, congestive failure, fourth day, Type XIV, moribund, died fifth day. The obviously noteworthy fact is that there were no deaths in patients under 55 years of age and that fatalities occurred for the most part among those subject to severe chronic disease.

Analysis of the relationship of the pneumococcus type to the variations in clinical response shows a significant difference only in the case of Type III infections. While the per cent of all other types showing prompt clinical recovery by crisis or lysis (inclusive of those with toxic drug reactions) ranges from 82 to 86 per cent, it was only 48 per cent in the Type III cases. Consequently the per cent of Type III patients showing low grade fever following an initial favorable response, relapse, or death was considerably higher than in the other types. That this apparent relative ineffectiveness of sulfapyridine in Type III pneumonia is due to a greater resistance to the action of sulfapyridine on the part of pneumococcus Type III, per se, seems improbable, however, when the relationship of age to clinical response is analyzed and it is at the same time noted that 64 per cent of the Type III cases were over 50 years of age.

TABLE III.—COMBINED THERAPY—PNEUMOCOCCAL LOBAR PNEUMONIA

	Initial Response	Subsequent Course	No.	Per Cent	Total %
RECOVERED	Crisis or lysis	Convalescence uneventful	11	26.8	
	Crisis or lysis	Low fever several days	4	9.8	(+ 3) 17.1
	Crisis or lysis	Toxic drug reaction	2	4.9	(+ 1) 7.3
		Serum disease	7	17.1	(+ 6) 31.7
	Temporary improvement	Infectious complication	8	19.5	(+ 1) 21.9
	None to serum	Recov. with S P	1	2.4	
	None to S P	Recov. with serum	1	2.4	
			34	82.9	
DIED	Crisis or lysis	Died, other disease	2	4.9	
	Temporary or none	Died	5	12.2	
			7	17.1	

Variations in clinical response shown by patients treated with sulfapyridine and antipneumococcus serum.

The influence of age on the clinical response of patients with pneumococcal lobar pneumonia treated with sulfapyridine is important. It is illustrated by the fact that 97 per cent of cases under 10 years of age, 75 per cent of those from 10 to 39 years of age, 68 per cent of those from 40 to 59 years of age, and 48 per cent of those 60 years of age or older recovered by crisis or lysis with uneventful convalescence apart from drug reactions. Conversely the proportion showing low grade fever, relapse, complications or fatal outcome steadily rose with increasing age, the figures being 3 per cent under 10 years, 25 per cent from 10 to 39 years, 32 per cent from 40 to 59 years, 52 per cent in patients 60 or over, all the deaths being in patients 55 years of age or above.

The influence of delayed treatment is less conspicuous. Of 69 cases in whom treatment was started on or before the third day of the disease, 76.8 per cent showed prompt recovery by crisis or lysis (including those with toxic drug reactions). Of 40 cases in whom treatment was begun on the fourth day or later, the per cent was approximately the same, 72.5. While it is true that the case fatality rate was only 1.4 per cent in the cases treated early as contrasted with 15.0 per cent in those treated late, it must be pointed out that slightly less than one quarter of the early cases were over 50 years of age, nearly one-half of the late cases.

In this series the influence of bacteremia appears unimportant but the number of bacteremic cases is too small to warrant analysis. Six of the seven cases recovered, the fatal case being a Type I pneumonia in a man of 70 admitted on the fifth day of the disease.

Clinical Course in Patients Treated with Sulfapyridine and Anti-pneumococcus Serum.—The variations in clinical response to combined therapy with sulfapyridine and anti-pneumococcus serum were in general quite similar to those in patients treated with sulfapyridine alone, with the addition of serum disease, which occurred in approximately one-third of the cases, for the most part treated with concentrated antipneumococcus horse serum. The data are summarized in Table III, from which it will be seen at once that a much lower proportion recovered promptly and uneventfully, a much higher proportion presented complications or died than was the case in the patients treated with sulfapyridine alone.

The complications encountered in this group were sterile pleural effusion, 1; empyema, 4; organizing pneumonitis with abscess, 2; thrombophlebitis, 1; and cerebral arteritis (?) with hemiplegia, 1. All recovered except one patient with empyema. With one exception, a patient of 32 with advanced rheumatic heart disease admitted moribund with a bacteremic Type I pneumonia, the fatal cases were over 58 years of age and subject to more or less severe chronic disease.

While the two groups are comparable with respect to day when treatment was started and in the proportion of cases over 50 years of age, the combined therapy group included proportionately many fewer children under 10 years of age (9.7% vs. 33.0%) and many more bacteremic cases (36.6% vs. 6.4%) than the group treated with sulfapyridine alone. As already pointed out these differences make comparison invalid. While our still somewhat limited experience would seem to indicate that nothing is to be gained by combining serum with sulfapyridine therapy in the majority of children and young adults coming under treatment early in the disease, it does not permit the conclusion that combined therapy may not possess considerable advantage in severe bacteremic cases, particularly in the older age groups.

Immediate Toxic Reactions.—The immediate toxic effects of sulfapyridine appear to be largely central in origin. During the first few days patients are frequently depressed or irritable. Dizziness and headache are not uncommon complaints. The most frequent and distressing of the early toxic reactions is nausea, usually with vomiting. In our experience it has occurred to some extent in approximately 60 per cent of patients, being quite severe in a third of these. Usually it began within a few hours after the initial dose and lasted for two to four days, after which it ordinarily abated, even though sulfapyridine was continued. We have found no satisfactory method for either preventing or controlling it.

TABLE IV.—DRUG REACTIONS

Reaction	Sulfapyridine No.	%	SP + Serum No.	%
Drug Fever	3 + 1	3.7	?	?
+ Rash	4 + 2	5.5	?	?
Hemolytic anemia	1	09	0	0
Neutropenia	2	1.8	1	2.4
Agranulocytosis	1	0.9	0	0
Hematuria: mic.	2	1.8	1	2.4
gross	3	2.8	1	2.4
Hepatitis	17	15.6	0	0
Total	1	0.9	3	7.3

Incidence of drug reactions.

Later Untoward Reactions.—The delayed reactions, with the addition of hematuria, appear to be quite comparable to those encountered with sulfanilamide therapy, namely, drug fever, dermatitis, acute hemolytic anemia, granulocytopenia, and hepatitis. These are now so familiar that they need not be described in detail. Their incidence in this series of patients is shown in Table IV, the occurrence of drug fever being uncertain in the patients recovering combined therapy because of possible masking by serum disease.

While the toxic drug reactions are disturbing, the more serious ones are infrequent and the mere fact that they may occur should not contraindicate the use of sulfapyridine in so serious a disease as pneumococcal lobar pneumonia, even when the patient must be treated at home. Constant alertness for the first signs of hematuria, acute hemolytic anemia and hepatitis, which usually occur in the course of treatment, and the immediate cessation of chemotherapy with forcing of fluids with the appearance of red blood cells in the urine or icterus of the sclerae should serve to obviate serious consequences from these reactions in most cases. In our experience recurrent fever after the temperature has been normal or nearly normal for two or more days is more apt to be an expression of drug fever or other toxic reaction than of relapse or infectious complication requiring continuation or resumption of chemotherapy. For this reason it is considered wise practice under these circumstances to discontinue sulfapyridine, if it is still being given, or not to resume chemotherapy, if it has already been stopped, until the cause for the recurrent fever becomes clear. Only when it is established that there is spread of the pneumonia or development of an infectious complication should sulfapyridine be given. Unfortunately, the most serious toxic reaction, agranulocytosis, cannot be detected early except by means of total and differential white blood cell counts. Fortunately, however, it is quite rare.

SULFAPYRIDINE IN OTHER ETIOLOGIC TYPES OF PNEUMONIA

Streptococcus Hemolyticus.—Sulfapyridine has been used in 5 cases of hemolytic streptococcal pneumonia with satisfactory results comparable to those formerly obtained with sulfanilamide. Two of these were very severe, with massive, heavily infected pleural effusions. Both recovered without resort to surgical drainage, two were of moderate severity and recovered promptly and uneventfully except for drug fever with rash in one. The fifth showed a satisfactory initial response, but developed bronchiectasis.

Streptococcus Viridans.—Two patients with this infection were treated without any therapeutic benefit.

Friedlander's Bacillus.—Only one case of pneumonia due to Friedlander's bacillus has been treated. This patient responded promptly within 24 hours and had an uneventful convalescence.

Staphylococcus. — Our experience with staphylococcal pneumonia has not been encouraging. Of 6 cases of bronchogenic pneumonia, 4 died, 2 recovered. On the other hand 2 cases of hematogenous pneumonia occurring in the course of severe staphylococcal sepsis finally recovered after a prolonged course of treatment.

Bronchopneumonia. — Sulfapyridine has been tried in 35 cases of bronchopneumonia. In many instances these appeared to be mixed infections or were of indeterminate etiology. The results were equivocal and difficult to evaluate. If pneumococci, hemolytic streptococci are found in considerable numbers in the sputum it is our feeling that chemotherapy should be used. On the other hand the indiscriminate use of sulfapyridine in influenzal and other types of bronchopneumonia would appear to have no justification.

SULFATHIAZOLE

Two major problems encountered in the use of sulfapyridine are the frequency of nausea and vomiting and the variable and unpredictable degree of acetylation of the drug which occurs in man. Consequently the recent introduction of a new sulfonamide derivative, namely sulfathiazole, thought to be superior to sulfapyridine in these respects, and equivalent to it in scope and effectiveness of therapeutic action[4] is a matter of considerable interest. To date we have tried sulfathiazole in 15 cases of pneumococcal lobar pneumonia shown in Table I. In these few cases the therapeutic response has been quite as satisfactory as that to be expected from sulfapyridine, the degree of acetylation has been relatively small, comparable to that seen with sulfanilamide, and nausea and vomiting, though present to some extent in half the cases was relatively slight in severity as compared to that commonly seen in patients being treated with sulfapyridine. Only further experience can determine the place of sulfathiazole in the field of chemotherapy.

SUMMARY

Sulfapyridine is a very valuable chemotherapeutic agent in pneumococcal pneumonia. Variations in therapeutic response have been described. In approximately 1 out of 5 patients treated with sulfapyridine alone in this series such problems as relapse, infectious complications or toxic drug reactions following initial satisfactory response have been encountered, but except in one patient, who died from agranulocytosis, these were temporary and the patients recovered. Deaths occurred only in patients over 55 years of age, for the most part subject to severe chronic disease. Under these circumstances sulfapyridine though often effective, would appear to be much less so than in younger and otherwise healthy persons.

Combined therapy with sulfapyridine and antipneumococcus serum would seem unnecessary in the average early case of lobar pneumonia but may be desirable in late severe cases, particularly in those subject to chronic disease.

Sulfapyridine appears to be of considerable therapeutic value in hemolytic streptococcal pneumonia. It should be tried in other types of pneumonia of proved bacterial etiology.

All patients under treatment with sulfapyridine should be watched with care for the first signs of toxic drug reactions and the drug should be stopped immediately whenever a toxic reaction occurs.

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Factors of Importance to Medical Men in General from the Field of Ear, Nose and Throat*

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I SHALL confine my remarks to practical consideration in otolaryngology, which I feel might be most helpful and interesting to men in medicine, who do not wholly limit their practice to that of ear, nose and throat.

In dealing with fractures of the nose do not depend upon x-ray in these cases. You are most concerned about a good alignment of the nose, a good profile and a good breathing space. If bleeding has occurred from the upper inner part of the nose, the membranes are torn and a fracture must have occurred.

Is there a deformity externally or internally? If so, under local or gas anaesthesia, push the nose in place and elevate depressed fragments by placing a blunt flat instrument, as a submucous elevator, in the nose. No splints as a rule are necessary. Look carefully for haemorrhage into the septum, and drain, if present, otherwise, suppuration and a saddle nose deformity usually result.

Early or immediate treatment of fractures of the nose is most important.

Remember that 90 per cent of all nasal haemorrhages come from the anterior portion of the septum, and do not require postnasal plugs and long strips of packing. A large piece of cotton as large as one's thumb, placed well in the bleeding naris, with light pressure against the side of the nose to bear the cotton against the septum, will usually stop the bleeding in five to ten minutes.

After the cotton is removed, apply a 10 per cent solution of cocain, followed by a very small applicator, dipped in a 50 per cent solution of silver nitrate. Hold this applicator firmly against the bleeding point 30 to 60 seconds. This treatment will not fail you in septal haemorrhages. Vaseline following should be advised to relieve dryness.

It must be emphasized that a boil on or near the end of the nose is, indeed, a very dangerous swelling. If cut into, or squeezed, in the early red stage, a meningitis may result, for the return blood supply is largely through valveless veins to the base of the brain cavity.

Compresses of aluminum acetate, or epsom salts with a pinch of table salt added, are indicated to cause the boil to soften before rupture or opening. Never hasten to open a diffuse red swelling of the nose.

Acute colds are not best treated by taking large quantities of orange juice, soda or alkaline drinks, as so frequently advocated and advertised over the radio.

The nasal and body secretions are normally slightly acid, thus offering the greatest resistance to bacterial growth. It is not generally realized that bacteria require an alkaline media for growth. This fact is made use of in every clinical laboratory where bacteria are routinely grown on an alkaline medium. No laboratory grows streptococci on an acid media. Is it reasonable then that we should deliberately attempt to create an alkaline condition of the secretions of the body?

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It is when the nasal and body secretions shift from their normal slightly acid reaction to the alkaline side that bacteria, accompanying acute infection, find their favorite field for growth.

Alkaline treatment has been broadcast beyond its true value.

The drinking of a level teaspoonful of ordinary table salt in a glass of cold water at the onset of a cold, even repeated several times the first day, will do much more for most colds than any of the alkaline drinks.

Cathartics, unless positively indicated, have no place in the treatment of an acute cold. They decrease the body fluids, deplete the patient, and prolong a cold from one to two days.

Two tablespoonfuls of strained honey with the juice of one-half of a lemon in a tall glass of hot water, sipped at bedtime, is an ideal drink in the treatment of colds. Our forefathers rightfully recognized honey as a valuable adjunct in medicine.

Coughs, arising with acute colds, and lasting more than two weeks, positively indicate a nasal sinus infection until proved otherwise. Unless these sinuses and cough are cured, especially in young children, a beginning bronchiectasis occurs, the golden opportunity has been lost, and a condition, far more incurable than tuberculosis, has arisen.

In a persistent nasal sinus infection in a child, often the tonsils and adenoids are large and their removal will increase the drainage and aeration of the sinuses. However, the antra should also be irrigated, or better, injected with 27% iodine in oil every ten to fourteen days in the subacute or chronic cases and the progress watched by roentgenographs. If the infection persists large openings should be made into the antrum under the inferior turbinates except in children under two to three years of age when the middle meatus may be used.

By the law of halogen displacement highly chlorinated drinking water has a tendency to displace the body iodine. Marked hypertrophy of the lymphoid tissue on the posterior pharynx is usually an indication for the administration of small doses of iodine and, if the child has frequent colds, is fat with pale swollen nasal membrane a fourth to one-half of thyroid may be given with one to two grains of iodine per day with gratifying relief. Incidentally, even the disposition of these children is often greatly improved by the use of iodine.

If bronchiectasis is suspected, use iodized oil, for roentgenographs can most easily be injected by the Forestier method[1]. After cocainizing, the tongue is pulled forward and the oil is injected into the nose and allowed to flow into the trachea.

Four weeks ago I saw a child ten months of age, who had some apparent adenoid obstruction since birth. There was also a history of what was diagnosed as an asthmatic attack four months previous, followed by increased difficulty in breathing and aversion to food.

I was to remove the adenoids, and asked that I be permitted to make an examination with the bronchoscope. An open safety pin was removed with its pin buried in an arytenoid, and was impinging on the glottis and the mouth of the esophagus.

A history of sudden disturbed breathing or pneumonia in an infant with little or no temperature should always make one think of a possible foreign body, and while x-raying the child's chest, the neck can easily be included.

I wish to call your attention to a procedure, which I hope you will help to discourage. That is, the treatment of an antrum infection through a fistula, occurring after the extraction of a tooth. The normal route of drainage for an antrum is through the nose, and not the mouth. It would be better to suture the opening immediately to prevent further infection from the mouth, or to let a good blood clot remain as a base for healing. Let the antrum infection be treated through the nose.

Not infrequently I see a patient whose arthritis or general symptoms together with postnasal dripping and frequent colds, date back several years or more to a time corresponding to the extraction of an upper molar tooth.

I wish to mention a few points, which you will find very helpful in infections about the mouth and neck. No attempt need be made to give fluids by mouth in cases of acute cellulitis and painful swallowing. A nasal tube inserted, and, left in place, for the maintenance of fluids and nourishment is to be recommended.

A lateral roentgenograph of the neck is often important in making a diagnosis of a retropharyngeal abscess. Once the abscess is located I find that aspiration with a large syringe, and a large needle, greatly reduces the danger of pus entering the trachea.

Remember, in submaxillary infection and Ludwig's angina, there is no distinct trismus. The patient may have difficulty in swallowing. Usually there is a history of extraction, or infection of a lower molar, or a peritonsillar or pharyngeal abscess.

Very definite treatment is indicated in these cases to save their lives. First, x-ray is helpful in early localization. Second, there are two very definite, but not too difficult methods of approach for entering and draining the pharyngo-maxillary fossae.

First, by incision through the anterior tonsillar pillar[2], and insertion of an eight-inch haemostat, preferably curved, is an excellent and simple procedure in many cases. Second, the Batson approach, in which an incision is made just back of the angle of the jaw. Find this angle with your finger and enter with haemostat or finger deep to this angle and upward. You will easily enter a free cavity just lateral to the tonsil.

Ludwig's angina is always alarming and definite in picture—the brawny, tender submental swelling, often with the tongue pushed high into the mouth, or even protruding, accompanied by difficult swallowing, and threatened breathing. X-ray treatment helps in localization, and I have seen cases, even with the tongue much elevated, subside after x-ray.

I wish here to condemn the old ear to ear incision in the treatment of these cases. It is an incision of horror, and results in much unnecessary scarring.

If the infection is chiefly above the mylohyoid muscles, drainage by incision in the floor of the mouth is excellent and sufficient.

If an external incision is to be used, let it be made carefully in the midline, not to the right or to the left. From this incision a haemostat can be passed to either side below the mylohyoid muscle, or by advancing the mid incision through this muscle both sides above and in the floor of the mouth may be reached.

In this day of automobile and athletic sports injuries to the ear are frequent. Never irrigate an ear which is discharging blood or spinal fluid following an accident.

An acute swelling of the external ear usually means blood, or serous fluid, has collected under the perichondrium. Unless this blood, or serous fluid, is removed early, and definite steps are taken to prevent its reaccumulation, softening of the cartilage occurs with a resulting cauliflower deformity, and a possible legal suit for neglect.

Early, the fluid may be removed by aspiration or incision. The most difficult part of the treatment is to apply pressure, which will prevent reaccumulation of fluid.

Dental modeling compound applied immediately after aspiration, completely closing the external ear, is excellent. It must be divided on the third day. If serum is again present, aspirate, and reapply mold for two to three days more.

Another satisfactory dressing consists of applying layer upon layer of cotton soaked in collodion over the front and back of the ear; thus molded to the ear a hairpin[3] is applied while drying.

Cases of three to six days standing usually require more radical treatment, if a gross deformity is to be prevented.

Make an incision at right angles to the long axis of the ear through the skin and perichondrium. Insert a Gruenwald punch and bite out a window[4]. Remove all clot and soft cartilage, if present, with a spoon curette. Apply a non-irritating antiseptic, and a pressure mold.

I find a copper wire laid on the edge of the ear under the dental mold is helpful in dividing the mold for inspection of the ear several days after application.

Pain in the ear while chewing, accompanied by pain when pressing on the eternal ear, usually means a furuncle of the external auditory canal, and not an otitis media.

An application of 50% silver nitrate, followed by a gauze wick packing of 1% yellow oxide of mercury, is very helpful in these cases. Firm packing with gauze and Burrows' solution (one-half strength) moistened with a dropper at intervals, is also excellent. Do not forget that these patients should have sufficient sedatives to sleep. I have found that daily doses of three units of insulin seem to hasten resolution, often with surprising relief.

In acute middle ear infections, many subside without rupture or incision of the ear drum, and indiscriminate incision is to be discouraged. As long as the short process of the malleus is still visible, incision can usually safely be delayed. Redness and swelling about the malleus calls for heat and warm 5% phenol in glycerine drops.

An infant with a temperature, who cries after coughing, usually has a middle ear infection.

Remember a sustained ankle clonus is often the first sign of meningitis in an infant.

Acute middle ears, which come up quickly and violently, and rupture, or are incised during the first twelve or twenty-four hours after onset, show haemolytic streptococci in 90% of cases. Since 70% of all strains of streptococci in humans are B. haemolytic the results obtained by the use of sulfanilamide are excellent. If properly given, and there is no relief in three to four days, the drug should be stopped. I have seen one case, and, two more cases have been called to my attention, where the white count rose to 40,000, and 75,000, and in my case to 90,000 following sulfanilamide.

Every acute discharging ear is accompanied by some infection of the mastoid cells, and a mastoid tenderness usually appears on the third or fourth day. This early tenderness, however, does not indicate an immediate mastoidectomy. Few primary infections require operation before ten days, and usually not before the second or third week.

Chronic discharging ears are always dangerous. This point cannot be too strongly emphasized. Small perforations high in the attic region, even though the discharge be infrequent, and small in amount, usually require a modified radical operation, in which the drum and ossicles are disturbed as little as possible. If with each head cold there is accompanying occipital and temporal pain on the side of the discharging ear, intracranial complications and death are pending. Do not delay operation.

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Some Rationalized Therapeutic Experiences*

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A MEDICAL proverb avers, "It is easy to get a thousand prescriptions, but hard to get one single remedy." Therapeutic nihilism enlisted an Osler as recently as the last generation. In the intervening years pharmacology has become one of the most effective contributors to medical science and therapeutics has been rationalized upon a sound scientific basis. The difficulties of control observations on the mammalian subject, experimental or clinical, still militate against the expeditious solution of many therapeutic problems. The biologic results may be altered by many factors in the healthy intact animal and the variables introduced by disease are frequently unpredictable. Nevertheless, great advances have been made in many directions. Clinicians should welcome the reasonable safeguards that have been erected to prevent the release of new drugs without adequate controls.

Physiological considerations now enter regularly into the therapeutic approach to many clinical problems. Cardiac decompensation is treated by rest to reduce the physical demands for increased arterial output and for increased venous intake. Fluid limitation to

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1500 cc. daily has a like purpose. Venesection may be invoked to relieve venous overload. Glucose, insulin and oxygen are essential prerequisites for myocardial competency. The supply of insulin is ordinarily adequate under these conditions. The dietary carbohydrate fulfills the especial demands of decompensation unless nausea and vomiting limit the intake. Then isotonic glucose solution (5 per cent), 1500 cc. daily, may be given intravenously without overloading the right heart. By a singular provision of nature the glycogen reserve of the myocardium is better preserved than that of any other muscle, provided the oxygen supply be maintained. When anoxia occurs, the glycogen reserve is soon exhausted. Cardiac crises may be weathered by a judicious application of these physiological principles.

Digitalis is the sheet-anchor of cardiac therapy. The vagal stimulation of digitalis slows the heart. At the same time its tonic action on the myocardium reduces the heart size. These ends are most desirable in cardiac decompensation where the therapeutic results of digitalis are measured by the slowing of the heart, improvement in the circulatory efficiency and diuresis. Unfortunately, toxic action may anticipate therapeutic effect. Our experience favors intermediate doses of digitalis with the attainment of the therapeutic objective in 3 to 5 days. Instead of the 0.15 cc. of the tincture per pound of body weight for theoretical tolerance the figure for the U.S.P.XI tincture should be 0.1 cc. Due allowance is made for loss (effect of 1cc. per day). Of course, such a mathematical approach is simply a guide and the ultimate dosage is gauged by the therapeutic and toxic effects.

In contrast to digitalis, quinidine is a myocardial depressant. All functions of the heart muscle are depressed by its action. Certain arrhythmias, auricular fibrillation, paroxysmal auricular tachycardia and extrasystolic arrhythmia, respond quite regularly to its rational use. Quinidine has a rapid but short action. It begins in 10 to 15 minutes and lasts only 2 hours. A sound schedule of administration would be: Quinidine sulphate 2 grains every 2 hours for 4 doses as a trial of idiosyncrasy. If no unfavorable symptoms develop, the individual doses may be increased to 4 grains. This schedule of two hourly doses should be continued **day and night** for 36 hours, or until the normal rhythm is resumed (if before that time). If the desired results have not been attained after 36 hours of such a regimen, in our experience no further persistence will accomplish the advantage. Upon the restoration of the normal rhythm the dosage may be reduced by lessening the individual doses and then by lengthening the interval. Complete withdrawal may be possible or, by trial and error, a maintenance level may be struck that may be indispensable for varying periods of time.

The contraindications to the use of quinidine are fairly clear-cut. Cinchonism and cardiac decompensation absolutely interdict its use. It should be withheld in the presence of embolism, thrombosis, extensive sclerosis or valvulitis. An auricular fibrillation of long duration is a relative contraindication to its use, but no arbitrary time limit can be set upon this point.

Mecholyl (acetyl-beta-methylcholine chloride) has been advocated in paroxysmal auricular tachycardia. This drug is a parasympathetic stimulant. In doses of 20 to 40 mgms. (one-third to two-thirds grains) hypodermically mecholyl will frequently control the paroxysms of tachycardia. Shock and cardiospasm upon the intravenous injection of mecholyl preclude this route of administration.

Cardiac pain arises from several causes. The nitrites are singularly effective in the control of angina pectoris. This circumstance has given support to the angiospastic theory of its origin. On the other hand the pain of acute coronary occlusion is usually unaffected by the nitrites. The opiates are helpful in raising the threshold of stimulation but frequently they afford no adequate relief of this pain. Oxygen (4 to 6 liters per minute) may induce rapid and dramatic abatement of this distressing symptom. Of course, it is scarcely conceivable that the oxygen advantage can permeate the ischemic zone of infarction. In all probability the pain of acute coronary occlusion arises from some abnormal metabolite at the periphery of the infarct. Its exact nature is not definitely known. If it be lactic acid, an excess of oxygen might definitely favor its mobilization.

General anasarca constitutes a problem in pathological physiology before a rational therapy can be applied. Many factors may contribute to the passage of the circulatory fluids into the tissues or their inadequate absorption therefrom. In circulatory edema an elevation of the venous and capillary pressures, hydremia, acidosis, increased capillary permeability, hypoproteinemia, or B_1 avitaminosis may be contributory. Such fundamental factors must be recognized and, where possible, corrected before a true relief may be anticipated. Having applied the suggested measures for the control of cardiac decompensation, for example, the movement of edema fluid from the tissues may be speeded by the expedient of a low salt, low fluid diet. Hypoproteinemia and B_1 avitaminosis must not be overlooked in the quest for the obscure. Furthermore, the xanthin and mercurial diuretics have a real place in this relation. Theophyllin (theocin) or theobromine sodio-salicylate (diuretin) in 10-grain doses three times a day for three days may be alternated. Ammonium chloride 15 grains six times a day or potassium nitrate 5 to 10 grains three times a day may be given to move the reaction of the body toward the acid side prior to the use of these xanthin diuretics or the mercurials, novasurol, salyrgan or mercupurin. Our experience would give mercupurin a slight advantage among the mercurial diuretics. A series of intravenous injections of 0.5, 1, 1 and 2 cc. on alternate days may be repeated weekly or bi-weekly. The urine should be followed closely for evidences of renal irritation. The safeguard of a phenolsulphonphthalein output in excess of 50 per cent in two hours may obviate such adverse reactions. Paracentesis and scarification will afford mechanical relief from fluid pressures.

The edema of renal origin likewise may have several pathogenic factors. Most important among these are hypoproteinemia, acidosis, hydremia and increased capillary permeability. In so-called lipoid nephrosis, the glomerular epithelium loses its ability to retain the native or conjugated proteins of the plasma. The loss of the serum protein in the glomerular filtrate leads to hypoproteinemia, which in turn induces a lowered oncotic pressure and general anasarca. Dietary limitation of protein contributes materially to the difficulty by placing further drains upon the body proteins to maintain nitrogen equilibrium. High protein diets are indicated under these conditions. Indeed the same caution against low protein diets should be sounded in the nephritic states unless there be evidences of increasing protein end product retention. Even under these circumstances maintenance levels of protein intake (two-thirds to three-fourths of a gram per kilo of body weight plus the amount lost in the urine) should be observed.

Bronchial asthma offers a serious challenge to rational therapy. Two theories of the mechanism of the asthmatic episode, bronchospasm and cellulohumoral reaction, prevail. Desensitization is the practical answer to only a minority of these problems. The commonly applied remedies are grouped under two heads, sympathomimetic and parasympathetic depressants. In the first group are listed epinephrine, ephedrine, benzedrine, and paredrine. The first of this series, epinephrine, is the drug of choice in the acute bout of bronchial asthma. Two lessons are worthy of recital. Many attacks of asthma are protracted and epinephrine rendered ineffective by the overly cautious use of small doses of the drug in the early stages. The suggestion of a repetition of the therapeutic effect by the gentle massage of the area of the hypodermic injection of epinephrine has been confirmed by clinical trial. Ephedrine has its place in the prophylaxis and the moderation of the recurring cycles. Six patients suffering from the sympathomimetic action of the long use of ephedrine have been referred to the Wisconsin General Hospital upon the suspicion of thyrotoxicosis. The parasympathetic paralyzing drugs, belladonna and stramonium, are less commonly efficacious; but they should not be overlooked in the therapy of these patients. Potassium iodide in full doses is sometimes helpful.

Status asthmaticus is one of the most distressing clinical conditions with which we are confronted. Eventually fatigue of the respiratory muscles may lead to death under these conditions. Not infrequently helium (75 per cent) and oxygen (25 per cent) may afford complete respiratory comfort. Bronchoscopic aspiration is another more radical expedient that may give dramatic relief, particularly in those patients with much bronchial secretion. The support of the Drinker respirator has been life-saving in a few patients, in whom respiratory fatigue threatened an early exitus.

The developments in the knowledge of hematopoiesis have been great in recent years. By this token the therapy of the anemias has been resolved to more reasonable limits. The building-stones of erythropoiesis are iron, copper, cobalt, manganese, protein, oxygen, vitamin C and thyroxin. The extrinsic-intrinsic mechanism of Castle presupposes the dietary source of the extrinsic factor, associated with protein, and the gastric source of a ferment (intrinsic factor). The interaction of these agents leads to the formation of the maturation substance. Absorption of this material from the intestinal tract, storage in the liver, kidneys and brain and its ultimate action upon the bone marrow eventuate in regular erythropoiesis.

Anemia may result from improper blood formation, blood loss or blood destruction. Sound practice dictates the correction of the cause of the anemia, where recognized and remediable. Therapeutically speaking, iron is the building-stone most frequently deficient in the hypochromic, microcytic anemias. The dietary sources of iron, viz. green vegetables, red meats, liver and molasses, are most important in its restoration. Ferrous carbonate, saccharated ferrous carbonate and iron and ammonium citrate in daily doses of 4 to 6 grams (60 to 90 grains) are preferred. Reduced iron, 1 to 2 grams (15 to 30 grains) and ferrous sulphate 0.5 to 1.5 grams (7½ to 24 grains) daily offer certain advantages in the iron deficient anemias. Liver, as a ready source of the maturating substance, is the logical agent for the treatment of the hyperchromic, macrocytic anemias. Regardless of cause, the anemias attendant upon a megaloblastic change in the bone marrow almost universally respond to liver. The parenteral route is preferred by reason of its economy and assurance of absorption. The United States Pharmacopoeial unit is based upon the very unstable ground of the adequate response in a known subject with pernicious anemia. It unquestionably will be replaced in favor of a real standard in the future. While the response of the anemia may be slightly speeded by large initial injections of the available extracts, experience has led us to use 3 to 6 cc. (equivalent to 100 to 200 grams of whole liver) intramuscularly every four or five days until the blood level reaches 4.5 to 5 millions. Thereupon the interval between injections is lengthened to the extent that will insure a maintenance of this satisfactory plateau. Multiple transfusions, extensive nervous system involvement and intercurrent infections definitely reduce the efficacy of liver and its extracts. Under these circumstances the dosage must be greatly increased.

The bleeding of obstructive jaundice illustrates admirably the surpassing value of coordinated research. The hemorrhagic diathesis of chicks on a deficient diet and the toxic clover disease of cattle are traced to a decrease in the prothrombin. Alfalfa is found to possess antidotal properties. In turn obstructive jaundice is commonly attended by a hemorrhagic tendency which constitutes a serious hazard to biliary surgery. Prothrombin deficiency is proved responsible. Vitamin K is fat soluble and fat absorption is disturbed in obstructive jaundice. Hence vitamin K derived from alfalfa, grasses, chestnut leaves and other sources is administered with bile salts for the prophylaxis and the treatment of hemorrhage in this situation. The instability of the prothrombin levels in the presence of serious liver damage constitutes a further hazard that must not be overlooked.

The treatment of bleeding peptic ulcer has undergone many modifications in recent years. The suggestions of Holmgren, Meulengracht and others are particularly significant in their subscription to overlooked physiological principles. Assuming that a more adequate protein diet is desirable for the absorption of pepsin and hydrochloric acid and for the restoration of lost protein and blood, these workers outline a diet that affords a liberal intake for the first week. Then if the bleeding continues, fish and meat balls are added. The results in 27 to 30 patients with active bleeding peptic ulcer in whom this regimen has been applied in the Wisconsin General Hospital have been most heartening.

The therapeutic triumph of arsenic over syphilis led to many evanescent hopes for the therapia sterilisans magna in the bacterial diseases. All were futile until Domagk gave prontosil to the world in 1935. Hundreds of sulfonamide derivatives have been isolated in the intervening years and an epoch of therapeutic light that bids fair to eclipse the arsphenamine phase, has been inaugurated. It is too early to evaluate the advantages; but it is safe to state that great as the gain has been, even greater progress in the chemotherapy of bacterial diseases may be predicted for the future. To consolidate the present outposts we may say that sulfanilamide has clearly established its place in beta hemolytic streptococcus, gonococcus and meningococcus infections. Fine results have attended its use in trachoma. Its place in erysipelas and scarlet fever is slightly less dominant. The promise of sulfanilamide in actinomycosis and undulant fever has not completely been fulfilled. Sulfapyridine has won an enviable position in the treatment of pneumococcus infections. A six per cent mortality in a series of 2901 unselected cases of pneumococcus pneumonia is its amazing first year's record. Yet the time has not arrived to cast aside serum therapy in favor of chemotherapy. Indeed a combination of the two may eventually prove to have advantages.

A detailed discussion of the therapeutics of the sulfonamides is beside the present point. Certain suggestions for the control of some of the adverse actions of these drugs are offered in passing. The powdered tablet in fruit juice or sauce is frequently better tolerated than in water. Barbiturates or sodium bicarbonate may control the nausea of sulfapyridine. Singularly, nicotine acid may afford relief under the same conditions. Withdrawal of the sulfonamide brings an end to the remarkable drug hyperpyrexia and rashes. A withdrawal of the drug and transfusions will effectively combat the hemolytic anemia, if recognized in time. Usually removal of the offending drug will suffice to control the neutropenia. Wendel has afforded a specific antidote for the cyanosis of methemoglobinemia in methylene blue. He recommends 0.5 to 1 gram (7½ to 15 grains) daily by mouth for prophylaxis or 0.1 to 0.2 cc. of 1 per cent aqueous solution of methylene blue per kilo of body weight intravenously for immediate effect. The cyanosis dependent upon the sulfonamide will disappear within an hour after this intravenous injection.

The activity of the pharmaceutical houses is an interesting phenomenon of our time. One of their chief interests in recent years has centered about the exploitation of the barbiturates. Useful though this series of drugs undoubtedly is, one can scarcely conceive of gradations of sedative values such as their proponents claim. The clinician will protect himself by recalling certain simple principles. The barbiturates are depressants and somnifacients, not analgesics. Their action is a clue to their toxicity. The quicker the action, the more toxic the preparation. The more rapid the initiation of action, the shorter its duration, and vice versa. Evipal and pentothal are the most toxic, quickest in action but shortest in duration of same. At the other extreme, sodium barbital and phenobarbital are slowly acting but long in duration. The other barbiturates are ranged between and should be considered in the light of these properties.

Barbiturates are not pain relievers. In this connection they should be used simply as adjuncts to an analgesic agent. The salicylates and the coal tar derivates are first choices for the relief of pain. Among them dilaudid should particularly commend itself. Less depressing than morphine, it has five to six times the pain relieving influence. Doses of 1/32 to 1/24 grain of dilaudid suffice to control pain. It is distinctly less habit forming than morphine.

Vitamin and endocrine therapy are distinctive fields in which the developments have been so stupendous that the time and the occasion will not admit their consideration. In these as in all other therapeutic relations, "Do not rashly use every new product of which the peripatetic siren sings."

Acute Pelvic Appendicitis*

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THE HISTORY of events occurring in the usual case of acute appendicitis is in most instances fairly uniform, and any one of the symptoms may indicate that the appendix is the seat of the abdominal disease. The onset of acute epigastric cramps without antecedent symptom means appendicitis until disproved. Similarly, the nausea and vomiting subsequent to the persistent cramps point directly to appendicitis. Finally, pain in the right lower quadrant coming on after the epigastric colic and nausea and vomiting can mean only acute appendicitis. When one is called in to see a patient with this last symptom and with just a few questions elicits the above history, with a cursory examination, promptly makes a clear-cut diagnosis. When, however, this sequence of events is broken or when there is no sequence, with the patient insisting that something else is wrong, one finds himself in a more difficult situation.

Acute pelvic appendicitis is a problem that will test to the fullest the physician's diagnostic and surgical abilities. This condition is not rare. Wakeley and Gladstone reported in 1928 that the pelvic or descending position occurred in thirty-two per cent of their cases with the tip of the appendix usually directed downward on the psoas muscle, or hanging over the brim of the pelvis. Not infrequently the entire appendix will lie within the boundaries of the true pelvis, in close proximity to the rectum or bladder or female genitalia, due no doubt to a visceroptotic tendency and a quite mobile cecum. Lying anteriorly and superiorly to the pelvic appendix are usually several loops of the small intestine.

Progressive inflammation of the pelvic appendix is obviously more hazardous than that of the usual appendix. If the infection is of the spreading kind peritonitis develops rapidly with severe toxemia.

Any walling off of the infection must be performed by the loops of small intestine which become adhered to one another. The possibility of obstruction is therefore great. The walled-off abscess may rupture into either the rectum or bladder or intestine resulting in a possible fatal hemorrhage. In the female the pelvic appendiceal abscess may cause irreparable damage to the organs of reproduction.

The symptomatology of acute pelvic appendicitis differs considerably from that of the ordinary type. The onset with epigastric colic and nausea and vomiting is the same. This fact is of utmost importance because subsequent symptoms are so outstanding that a patient is prone to forget the onset. If the inflamed appendix is lying against the bladder, there will be early urinary symptoms even before the cessation of the epigastric pain, which cessation ordinarily results with the shifting of the pain to the right lower quadrant. At first there is frequency of urination and sometimes urgency. As the inflammation reaches the peri-appendicular structures, and the epigastric colic is relieved to the frequency and urgency, are added more urinary symptoms such as pain and burning on urination and ureteral colic especially on the right side; and if enough localized swelling of the ureter is produced, true renal colic may develop. These symptoms may cause the patient to insist that he has "kidney trouble." If the appendix lies on the rectum there will be a constant desire to defecate associated usually with a dull aching pain deep in the rectal area. Low back pain—sacral pain—may be intense.

The physical examination may at first and on the surface be quite misleading. If the patient is seen early during the epigastric colic there may be no objective sign other than the quiet abdomen. And if the patient has indulged in the usual purgative this sign is not present. The belly is devoid of tenderness. There is no rigidity, since several loops of intestine separate the inflamed appendix and the parietal peritoneum. Later in the disease mild tenderness deep in the suprapubic region possibly will develop, but this is undependable and when present indicates that the appendicitis has become peritonitis and is spreading. The rectal examination, however, done carefully and thoroughly will usually furnish the necessary information for making the diagnosis. Early in the disease when pressure is brought to bear on the appendix, through the rectum or vagina, there will be an exaggeration of the epigastric colic. This is true regardless of the position of the appendix, and helps us to make a diagnosis many times when the disease is just a few hours old. When the disease is older the searching finger should locate a tender ill-defined mass, thickening behind the bladder or right broad ligament or against the rectum itself. Usually the tenderness is exquisite and the mass indefinite—more of a resistance than a mass.

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Laboratory procedures are not of much value in making a diagnosis; in fact the urinalysis showing much pus, in the face of frequency, urgency, and mild suprapubic tenderness may be entirely misleading, causing the physician to be side tracked and permitting a peritonitis to develop. These urinary symptoms, however, with a negative urine will prompt the physician to hunt further for the diagnosis. The white blood count helps no more than it does in the usual appendicitis.

There are several diseases from which acute pelvic appendicitis must be differentiated. Acute cystitis begins with urinary symptoms and keeps them. Seldom is there epigastric pain or nausea and vomiting. The onset with frequency and urgency followed by pain and burning on and after urination clearly indicates the diagnosis. Acute salpingitis with spreading peritonitis identifies itself when one remembers that this condition frequently comes on after the menstrual period, that the symptoms start low in the abdomen and spread upward, that the pain and tenderness are usually bilateral and also in the back, that nausea and vomiting are usually absent, and that vaginal examination elicits the stigmata of gonorrhea along with greatly increased pelvic heat and tender bilateral parametrial masses with fixation. Acute pyelitis on the right side may cause difficulties until one checks the renal origin of pain with radiation downward to the right lower quadrant and external genitalia. Ectopic pregnancy with tubal abortion or rupture occurs after a period has been missed at least once. The onset is sudden, often causing the patient to faint. Examination reveals mild to severe shock, tenderness in one or both lower quadrants, bleeding from the uterus which may be enlarged, and a soft boggy mass in the cul de sac.

The approach to the pelvic appendix is obviously not by a McBurney incision. There should be no such a thing as a routine incision for appendectomy. For the appendix in the iliac fossa, the McBurney is the incision of choice, but for the pelvic appendix one should choose between a right rectus muscle splitting or a midline. If an abscess has formed, attempts at drainage should be made through the cul de sac or rectum if fluctation is palpable, unless the abscess definitely points in the suprapubic area.

The treatment of the appendiceal stump depends upon the choice of the operator. For the past several years in early cases I have peeled back to peritoneum at the base of the appendix; after identifying and ligating all bleeders, Kocker or Ochsner clamps are doubly applied and the appendix divided. Phenol and alcohol are applied and the stump inverted with chromium No. 0 or gastro-intestinal suture. The inversion is reinforced with a continuous Lembert suture. The question as to drainage will be solved by the surgeon's experience. Simple ligature of the stump is done in cases of abscess.

The following cases exemplify certain factors in making a diagnosis of acute pelvic appendicitis or the failure to do it.

Case No. 1

Negro boy, aged 12. Onset three days previously with acute epigastric colic followed by nausea and vomiting. About ten hours later a physician was consulted. He found no abdominal tenderness or rigidity. Making a diagnosis of food poisoning he advised a saline purgative. The next day the patient was still nauseated and vomited everything taken by mouth. There was still no abdominal tenderness or rigidity. On the next day when I saw the patient he was very ill and dehydrated, temperature was one hundred and two degrees. His vomitus was fecal. His abdomen was greatly distended but there was moderate tenderness just above the symphysis pubis. He was hospitalized, given intravenous glucose in saline and Wanginsteen suction siphonage instituted. After deflation a palpable mass was demonstrable deep in the pelvis by rectal bimanual examination. His general condition improved slightly and under spinal anesthetic—75 gm. of novocain—a low midline incision was performed. Several loops of small intestines adherent together in an inflammatory mass were revealed in the pelvis. The intestines were separated gently and appendiceal abscess opened. The ruptured appendix was removed, the stump being ligated only. The incision was filled with Penrose drains. The immediate post-operative condition was fair but about twenty-four hours later the patient rapidly became worse. Signs of generalized peritonitis were exaggerated and he died from circulatory collapse.

Case No. 2

White, female, aged 24. Single. Chief complaint was nausea and vomiting and pain in lower back for past twenty-four hours. General physical examination was negative. A moderately obese abdomen was quiet, soft, and not tender. On vaginal examination a normal nulliparous cervix was seen. The uterus was normal size and retroflexed. The left parametrium was negative, and the right was resistant—fairly fixed and quite tender. There was no evidence or history of bartholinitis or skenitis. Further questioning brought out the point that the first symptom noted was mild acute epigastric pain that lasted only a few hours. The white blood count was 12,800, P. M. N.. 80%, and lymphs 20%. The urianalysis showed a few pus cells, no casts, albumen or sugar. A diagnosis of acute pelvic appendicitis was made and under spinal anesthetic (150 mg. novocain) a low midline incision was made. An acutely inflamed appendix in the true pelvis firmly attached to the right tube and ovary by old adhesions was removed. The tube and ovary were not removed. Convalescence was uneventful. The patient remained in the hospital ten days.

Case No. 3

White, male, aged 39. Chief complaint—pain in back, kidney region, and frequency and urgency of urination. Onset twelve hours previously with acute epigastric pain and nausea and vomiting. Pain grew worse and patient took a dose of Sal Hepatica. Had three stools with marked increase in severity of symptoms. Pain radiated to both kidney regions, especially the right, and was excruciating. At the time he was seen he had a hot water bottle to his back. This apparently did not help any. The patient urinated frequently and complained at the end of the act that he still felt the desire. He felt certain that he had something wrong with his kidneys. Physical examination revealed a fairly well developed and nourished, white male, aged 39, temperature 99 degrees, pulse 88, blood pressure 120/80, obviously acutely ill and in great pain. His head, eyes, ears, nose and throat, heart and lungs were essentially negative. His abdomen was mildly distended with no definite tenderness and no rigidity. The right lower quadrant was definitely negative. Both kidney areas were negative. Rectal examination revealed a moderately enlarged prostate that was not tender. Above and to the right of the prostate a "resistance" to palpation was encountered rather than a definite mass. This was exquisitely tender. A re-examination of the abdomen still showed no tenderness in R. L. Q. or above pubes. A diagnosis of acute pelvic appendicitis was made and the patient transferred to the hospital. The white blood count was 11,350, P. M. N. 85%. lymphs 15%. Urinalysis showed only an occasional pus cell. Under spinal anesthetic (150 mg. novocain) a low right rectus incision was made. A gangrenous appendix lying on the fundus of the bladder to the right was removed. There was no evidence of a spreading inflammation and the abdomen was closed without drainage. Convalescence was uneventful and the patient was discharged home after five days.

In conclusion let me repeat that the diagnosis of acute appendicitis is not simple. If, however, we obtain a careful step by step history from the patient we shall avoid many mistakes. We must not be misled when the symptoms referable to the gastro-intestinal tract are superseded by those pointing to the genito-urinary system. Above all, we must always make a thorough physical examination, never neglecting to do a vaginal or rectal examination in any case of acute abdominal disease.

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The Treatment of Head Injuries*

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IT IS ESTIMATED that the American Expeditionary forces that took part in the World War suffered approximately 50,000 killed and 180,000 injured. The whole nation took these casualties very seriously, but in these days of peace, a single year costs America as many traumatic deaths and several times that number of injuries, yet communal life moves on comparatively undisturbed.

When we stop to consider the frightful significance of this comparison we must realize the ever increasing responsibility that is placed upon the medical profession if it is to cope with the devastating results of this mechanical age in which we live.

Our high speed methods of transportation scatter many serious injuries over the highways and byways of the nation where the general practitioner is usually the first medical attendant, and among these, no doubt, head injuries cause him more grief than any other type. It is for this reason that I have selected this subject for review and the following discussion is based more upon the teaching of others than it is upon my own meager experience.

Volumes have been written on this subject and in a brief resumé, such as this, it is impossible even to touch upon all the anatomical, physiological and pathological factors that so definitely influence the diagnosis, treatment, and prognosis of head injuries, so I will, therefore, confine my remarks to a few of the pertinent factors in treatment.

For convenience of discussion I will divide head injuries into extracranial, cranial, and intracranial wounds, emphasizing, of course, that we often see all three types in the same patient.

Uncomplicated extracranial injuries are usually of relatively minor importance and I will mention only lacerations and hematomata of the scalp. In my opinion lacerations, particularly contused lacerations, are often considered too lightly. In every case the hair should be shaved over a generous surrounding area which is then thoroughly cleansed. The wounded area should be blocked with novocain and the underlying skull explored both by direct vision and by the gloved finger to determine the nature and extent of any existing cranial fracture. All foreign material should be thoroughly cleansed from the wound, ragged edges trimmed carefully away and the galea aponeurotica closed with fine catgut or interrupted silk sutures. The outer scalp should also be closed with interrupted sutures of fine silk and these removed in from 3 to 5 days. Too often we see scalp wounds carelessly pulled together with through and through catgut sutures, covered with matted hair and clotted blood, and sealed up with a collodion dressing with a resulting suppuration and a potential brain abscess. A hematoma of the scalp will usually absorb without any specific treatment but if it is found necessary to evacuate a massive hematoma, the procedure should be carried out with strict aseptic technique, wide incision and a complete evacuation of the blood clot, followed by a careful repair of the incision and a compression dressing.

I will dispense with cranial injuries by stating that in the treatment of head injuries we are never primarily concerned with the skull fracture per se, but with damage to the enclosed brain, its covering and blood vessels; bony damage interests us only so much as it affects the enclosed contents. It is true that compound fractures sometimes result in an osteomyelitis of the skull that requires extensive treatment but this happens far less frequently than would be supposed, providing the initial treatment was adequate.

When a patient with an intracranial injury is first seen, as in all cases of severe trauma, the first and paramount thing to look for is shock. This is present in at least a third of the cases. Regardless of the type of injury the shock must be combated until the patient reacts favorably and a judicious handling of this stage is often a deciding factor in the eventual outcome. It must be remembered that several of the general methods of combating ordinary shock are usually contraindicated in head injuries. The lowering of the head, while of great value in ordinary shock, increases the venous engorgement of the cerebral circulation with a resulting elevation of intracranial pressure, a tendency to produce anoxemia of the brain and an early edema. Therefore, unless a very alarming degree of shock be present, the flat position is to be maintained with a moderate elevation of the head when the condition permits. Again, whereas large quantities of intravenous fluids are very useful in the treatment of ordinary shock, this will increase cerebral edema in intracranial injuries and the resulting elevation of blood pressure may aggravate an existing intracranial hemorrhage. If an unusual degree of shock is present 50 to 75 c.c. of 50 per cent glucose may be given, as this hypertonic solution tends to dehydrate the brain rather than increase the edema and the quantity is not sufficient to cause any appreciable elevation of blood pressure. Again, morphine is the drug par excellence in the treatment of ordinary shock, but Carl Rand lists at least three contraindications to its use in this type of case, viz., "(1) In a case of head injury, especially of severe grade, the increased intracranial pressure usually causes embarassment and depression of respiration and pulse; morphine accentuates this depressing action and it often fails to quiet the patient; (2) morphine contracts the pupils and thus masks the development of localizing signs; (3) morphine tends to mask the symptoms of oncoming stupor due to cerebral edema or hemorrhage." As a result, the treatment of shock in head injuries largely resolves itself into absolute rest in bed in the flat position, application of external heat, and the use of a sedative other than morphine, and my choice is sodium luminal orally or intramuscularly. Two of the gross injudicious measures often resorted to in this stage is the haste to dump these patients into the back seats of automobiles and rush them over long distances to a hospital, and upon arrival the mad rush to get x-ray pictures to see if they have skull with a severe intracranial injury. When a hospital case and adequate x-ray studies are often essential in determining the treatment of choice, I firmly believe that in the early hours, "masterful inactivity" even in the face of family discontent, will reward us with happier terminal results.

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After the patient has favorably reacted from the initial shock, transportation can be considered and routine examinations completed. After a careful observation of pulse and respiration, a rough neurological examination, frequent blood pressure readings, roentgen-ray examinations of the skull showing antero-posterior and lateral stereoscopic views, spinal puncture to detect blood in the fluid and degree of pressure, and ophthalmoscopic examinations of the eye grounds, we can usually assign our patient to one of two groups according to the treatment indicated, (1) operative and (2) non-operative.

In the operative cases, surgical interference is resorted to only when there is something to be removed, such as a large blood clot, depressed bone, foreign body, badly damaged brain tissue, or a subdural accumulation of fluid. Probably the type of case which most urgently calls for operative interference is the middle meningeal hemorrhage, in which the patient shows a temporary unconsciousness followed by an interval of consciousness, a slow bounding pulse, a gradual relapse into unconsciousness for the second time, with stertorous, snoring breathing and perhaps a gradually developing hemiplegia or contralateral convulsions. These patients demand immediate subtemporal decompression with ligation of the ruptured meningeal artery. The patients with subdural accumulation of fluid also call for this type of operation, in which the dura is opened to allow the fluid to escape. Depressed fracture should be elevated and loose fragments removed; the dura if not already lacerated should be opened, particularly if it bulges, to remove underlying blood clot and arrest active hemorrhage; badly damaged brain tissue should be carefully removed by catheter suction and then the dura tightly closed.

Into the non-operative group, which is the larger of the two, fall such cases as simple concussion or potential brain damage with or without fractures of the skull. Patients with this type of injury are usually semiconscious or unconscious, perhaps with bleeding from ear or nose, with bloody spinal fluid, but with blood pressure normal or only slightly elevated. The treatment of this group may be summarized in the statement that every means of subtracting fluid volume from the cranial cavity should be employed from the earliest possible moment. Measures to this end are: elevation of the head with ice cap; intravenous administration of 50 per cent glucose in small frequent doses; magnesium sulphate by mouth, stomach tube, by rectum or intravenously if patient vomits or expels it from colon. Adults are given an half ounce of a saturated solution every four hours for 24 hours, lengthening the intervals daily for a week. The dose for children should be regulated according to age, usually one to two drachms. The intravenous dose for adults is ten cubic centimeters of a 10 per cent solution, daily. Lumbar puncture and spinal drainage is repeated as often as every twelve hours for the first few days if necessary. Often a restless and complaining patient will drop off to a quiet slumber after this procedure. Restriction of fluids by mouth is very important. The amount should be limited to twenty ounces every twenty-four hours until all danger of intracranial complications is over. Thirst causes less discomfort if the fluids are given in small quantities at frequent intervals. The diet should be hypertonic and dry, i.e., very sweet fruit ades, salty broths, dry solid foods. This regimé should be continued, in a modified form, even after the patient has fully recovered conscious function. The period of treatment will vary with the degree of injury, usually lasting from thirty to ninety days. Many of these patients are discharged as cured too soon with subsequent development of sequelae that are due to organic changes in the brain that could have been prevented if this dehydration method of decompression was continued long enough.

Summary and Conclusions

1. All head injuries must be considered serious until proved otherwise; absence of demonstrable skull fracture must not permit of laxity of observation and treatment, as it is entirely possible to have severe grades of intracranial damage, even a fatal outcome, with no apparent fracture.

2. Treatment of shock must preclude all other therapy.

3. Injudicious transportation, x-ray examinations, spinal drainage or any other procedure that disturbs the patient should be avoided during the initial stage of shock.

4. It is only necessary to classify head injuries into one of two groups, (1) surgical and (2) non-surgical.

5. There are three chief surgical indications in the treatment of head injuries: (1) to relieve high grades of cerebral compression, whatever the cause, (2) to elevate depressed fracture, and (3) to prevent infection by adequate debridement and repair.

6. If no surgical indication is present the patient is best treated with elevated head, limited fluid intake, magnesium sulphate by mouth, hypertonic glucose intravenously, and after twelve to twenty-four hours, unless contraindicated, spinal drainage.

7. In the treatment of intracranial injuries the clinician must be concerned not only with the preservation of life but also with the prevention of mental disability.

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Valedictory—Tulane Medical College—1939

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SINCE BEING told that I was to make this speech, the choice of a suitable subject and the performance itself have been weighing heavily on my mind. Superficially it seems pretty easy to get up and with ten minutes' worth of pleasant platitudes wind up by bidding someone farewell, since by definition that is the purpose of a valedictory. However, even here, I have found at least two separate ideas about the persons to whom, and even those for whom, one is saying farewell.

As upon most other public occasions, I feel that generally speaking, the less said the better. My ideal of a valedictory address is one consisting of the one word, "Farewell," enunciated, of course, with fervor and sincerity. It appears, however, that a speech of a duration of at least several minutes is hallowed by tradition; indeed I believe it may be said that many very much longer speeches have a distinct odor of sanctity.

My greatest difficulty has been largely due to the fact that we are at the beginning of a career and so have learned nothing well enough to talk learnedly nor have we lived long enough to discuss life, advise youth, or speak wistfully of the dear old days thirty years ago when we were taking histories for Dr. So-and-So. Preventive medicine is looming so large in public eye today that I thought it best to discuss some of the implications contained therein.

The situation in which the world finds itself today is one which has never before been present. Always, up to a relatively short time ago, there have been new lands awaiting discovery and exploitation. Now, unless man learns to live in the arctic regions or in deserts, there are no new lands; all of the world is divided up into parcels belonging to one nation or another and jealously guarded by the owner. For a people to expand and grow they must either take land belonging to someone else or use more advantageously that which they already have. In many cases the former alternative seems inescapable; in others it appears the easiest way out. The settling of new countries and the building up of new nations out of wildernesses has come to an end.

Now as a natural corollary to this situation, students of population tell us that the birth rate is going down in almost every country and that in the not-so-distant future, population will become stationary to a very large extent.

Now in this world which has ceased expanding and begun to grow old, certain other facts are true about the population as a whole. Due to the beneficent ministrations of preventive medicine, people are living longer; the average citizen is older than ever before and is growing older every year.

In 1800 the average life expectancy was somewhere between 25 and 35 years; in 1815, 38.7 years; in 1900, something less than 50 years; and in 1933, a fraction over 61 years. This increase in the life expectancy has been due almost entirely to decrease in the acute diseases, especially those of children and young people. Upon examining the mortality statistics by age groups, it has been found that although more people are getting older, no more people are living to be 100 years old. The increase in life expectancy is due to vast numbers of people living to a moderately old age; it is not due to an increase in the number of extremely old people. The young are healthier, but as more poor risks live to be middle aged, they are more liable to the diseases of middle age; and they suffer earlier and more frequently from these diseases. That protoplasm which can perpetuate itself for 100 years is better protoplasm than that which lasts only 75 years cannot be gainsaid. Centenarians are better animals than those who die earlier. Whether this applies to their intellectual faculties is debatable; generally speaking, it is thought that the best minds occur in the best bodies and so the possibility has a good chance.

The mass of society now is older than it has ever been before. In a recent article it was pointed out that an individual is at his best between the ages of 40 and 60. The authors stated that with the increase in older people, the national mind would become more mature, and that this would have a stabilizing effect on the nation. The only catch to this statement is that when a man begins to speak of stability, he usually means that he is pretty well satisfied and is going to hang on like the devil when anyone tries to change him.

If by stability then we assume the continuation of the status quo, I believe that their statement is at least debatable. Surely we can hope for a time when less than 10 million men are unemployed and when the average man has more time to pursue happiness.

The mature minds of former days have always looked askance at anyone who tried to change the way of the world. No great reforms have been carried out and no great good has been accomplished without firm and continued opposition from the stable and conservative individual of the day. Almost every great man has been a great radical. Those whom we revere the most have been the ones whose way was the hardest. To do something truly great seems to require a certain amount of daring and recklessness; these are not the attributes of a mature mind. It seems to me that a "more mature national mind" will make for greater obstacles on the already rough road of progress.

The world today is dominated by old men or by men with old ideas. The principles of "might makes right" and the supremacy of the state without consideration of the individual are two of the most aged and brutal concepts that we are struggling with today, apparently with little success. The comparatively new principles of democracy, of the amicable adjustment of disputes, and of the sanctity of the individual are under fire on all sides and for the most part appear to be getting along only indifferently well.

The world as it is today is a product of science; more specifically, it is a product of the Industrial Revolution. Paradoxically enough, in those countries which owe the most to science, which have been able to exist and to terrorize their neighbors only because of the practical application of scientific discoveries, scientists are having the most difficult time surviving; if they manage to live they must do what they are told, and the freedom essential to continued progress has been destroyed.

In any society, the scientists are, generally speaking, a goodly proportion of those with minds capable of judging new ideas and of changing old conceptions; to my way of thinking this constitutes youthfulness of the mind. Since all science is in a continual state of flux, a man who ceases to change, or who rests on laurels won twenty years or more ago has ceased to be a scientist. It is not strange or coincidental that the scientist, the youthful minded man, is the one who has been selected by the most rigorous methods. The greatest weakness of science, as well as its greatest strength, lies in its withdrawal from political and social problems. By this means, scientists manage to gain time to devote to the things which interest them most and scientific accomplishments are made possible. The exploitation of these accomplishments has, in most fields, been left to men of executive ability who desire only power and fame; in most cases this means a great deal of money.

In other cases, and it is particularly that I refer to preventive medicine here, the scientist has gone ahead to carry out a dream without fully realizing the ultimate implications of the idea. The changing character of the population is due largely to preventive medicine. By preventing disease and death in the unfit, more of these continue to live and multiply, crowding still further an already overcrowded world, one in which survival of the fittest has almost ceased to hold true.

The medical profession has always been noted for the difficulty which it finds in persuading the public to accept new ideas and methods, the only purpose of which is to make life easier for that same resisting mass of the people. The hope for the future of the world quite possibly lies in eugenics; quite possibly, too, the future of human eugenics lies with the medical profession almost alone. We have been able to breed finer, healthier animals and plants; we know enough to improve the quality of the race tremenduously, both physically and intellectually; yet only the faintest and feeblest of beginnings have been made. Since it appears that preventive medicine is rapidly getting us into a mess, it is high time that we began to talk more about eugenics as the method of getting us out. Even the most basic application of the method would in the course of a generation or two make feeble-mindedness unusual and cut down the incidence of insanity very markedly.

Once having improved the basic stock we

can rely on preventive medicine to continue to cut down disease and upon the comparatively new but rapidly advancing science of geriatrics to make the individual live longer and more comfortably.

In conclusion, let me state again that it is my belief that since the medical profession, almost single-handedly and with great effort, has, by the application of methods of prevention of disease, caused an increase both in the absolute and relative members of those people manifestly unfit to carry on the potentially great future particularly of this nation, then the best if not the only hope for the production of a truly great people is the widespread application of principles of eugenics; and finally that probably the only hope for the realization of this lies ultimately with the medical profession, on whom the original responsibility devolves.

Avitaminosis In Eye Disorders*

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Regarding the medical literature of other parts of the world is always interesting and informative and particularly is this true in the overwhelming stream of articles concerning vitamin therapy. For example, it has been found that fishermen living on the Newfoundland Coast—and incidentally these fishermen have little regard for our profession—have worked out their own solution to night blindness—for after keeping one eye bandaged all day, they uncover it after sunset and proceed to use it at night. Thus they have one "daytime eye" and one "night-time eye." They have also found that eating liver makes their nocturnal vision much better, and paradoxically prefer to eat the livers of birds in preference to those of the cod and halibut which they catch.

Much of the knowledge of the influence of avitaminosis on eye disorders is based on the classic work of the Viennese ophthalmologist, Dr. Pillat, who went to China in 1929 to study their mechanisms. Important and informative though these and many other correlative facts, such as the millions of rats used in experiments with vitamin deficiency diets, are, they seem less pertinent to practitioners of medicine like ourselves than clinical observations in the deep South. It is along this line of thought that I wish to speak to you this evening.

Over a year ago, several children of the poor whites from a consolidated rural school in Louisiana, selected by a welfare organization because of low visual acuity and poor school work, were sent to us for refraction and glasses. On external examination of their eyes, however, they were found to show marked evidence of inflammation of the cornea and conjunctiva. On questioning them, it was found they suffered from photophobia, blepharospasm and the sensation of a foreign body present in their eyes. The corneal inflammation in a few cases had taken the form of a pannus, with the upper portion cloudy, uneven, and with superficial blood vessels. On inspection of the tarsal conjunctiva, there was discovered papillary hypertrophy which was acting directly as an abrasive to the cornea. These children had, of course, a modified form of trachoma, and subsequent examination of the school children in that and surrounding communities disclosed twenty-five cases of this condition, the diagnosis being later confirmed by a publc health physician from Washington.

The treatment instituted was along classic principles of copper sulphate and silver nitrate to the lids; and cod liver oil by mouth. With four exceptions these cases improved as well as could be expected. The improvement while constantly progressive, is slow. Last December and January, following the suggestions of some of the essayists at the Southern Medical Association in Oklahoma, they were subjected to a period of treatment with sulfanilamide (1 grain per pound of body weight daily for 14 days) with careful attention to the red and white blood count and urinalysis. The four exceptional and severest cases improved rapidly as did the majority of the rest. At the conclusion of the two weeks of therapy the cornea had regained its lustre and most of the superficial blood vessels had disappeared. Most remarkable of all, the papillary hypertrophy had disappeared. The few cases which did not completely recover were, for the most part, recently discovered cases which had not received the local and general treatment but for a short period of time and even they showed a diminution in the severity of the disease.

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*Read before the Adams County Medical Society. March 21, 1939.

I am cognizant of the fact that I have just changed the subject from vitamin therapy to chemo-therapy, but the question of trachoma has never been solved, and if a combination of these two types aids as it appears to in curing the disease, we may well consider it.

I realize that trachoma is considered an infectious disease but the type of this condition as seen in our section is greatly related to the nourishment of the individual. I cannot otherwise explain such findings as, for example, that in one classroom, where all played together equally. The sons and daughters of the well-to-do planters had no signs of the disease, while the sons and daughters of the poor tenants, who live on cornbread and molasses, and a nickel's worth of candy on Saturday had it almost universally.

Trachoma rarely occurs in the negro and avitaminosis creates usually a different picture. In infants and children, several small grayish white phlyctenules appear on the limbal border, gradually increasing in size and in number. The cornea and the iris become inflamed and the eye develops extreme sensitiveness to light and becomes quite painful. Local treatment with atropine and general treatment with administration of vitamins bring a rapid return to normal.

As far as we know, only three vitamins have a direct influence on the eyes. Vitamin G (formerly B) has some, not fully understood, influence on the lens, and certain investigators have stated that early cataracts can be checked or even decreased by the administration of a diet rich in this substance. It is generally agreed that some retinal hemorrhages will be benefited by vitamin C in large doses. Whatever the role of these two may be, it is less than the role of vitamin A, known as the anti-xerophthalmic vitamin. Yet xerophthalmia in the United States is extremely scarce, only a few cases having been reported in the literature as late as 1933 while diets low in vitamins are quite common. Dr. Pillat, to whom I have referred previously, was able by his studies to differentiate very clearly four distinct degrees of severity of this condition:

1. Night blindness, unaccompanied with ophthalmoscopic changes.
2. Dryness of conjunctiva, sometimes with pigmentation.
3. Dryness of corneal epithelium sometimes with wrinkles of the conjunctiva.
4. Keratomalacia (bad night blindness) but didn't know it because they couldn't see well in the daytime either.

Some in the three groups had anemia. The reason for such a low evidence of keratomalacia in the United States is due undoubtedly to the fact that the disease rarely progresses to that extent. Blepharitis and hordeolum are common in cases of vitamin A deficiency, being caused by the prevalence of bacteria in all parts of the eye, and by the decrease of the lacrimal fluid which occurs mostly in advanced cases of long standing.

Vitamin A seems to be necessary to keep epithelial tissues and tissues of epithelial origin "healthy," and the absence of vitamin A affects such tissues, some more than others, in a characteristic way. Cuboidal, cylindrical, or transitional cells change into the squamous keratinizing type; this change is not due to inanition but to a real metaplasia. The deepest cells of the layer are affected first and the process gradually extends to the surface. If this surface is exposed to the outside, as in the case of the epithelium of the respiratory tract or of the conjunctiva, infection often takes place and then symptoms, which up to this stage may have been absent, appear.

In the conjunctiva, the first stage is the disappearance of the goblet cells and later changes in the cells transform the epithelium and make the structure similar to epidermis. These changes manifest themselves at first by just a stickiness of the lids; later the conjunctiva becomes dry and white, and glistening spots appear (Bitot's spots), often covered with a whitish foam. Tears do not seem to moisten the spots and the surface acts as if it were greased. This condition is known as xerosis of the conjunctiva and cornea, or xerophthalmia. The conjunctiva becomes thick and lies on the eyeball in folds. Later the process advances in the cornea which becomes more cloudy; then there is a softening and breaking down of the corneal tissue, keratomalacia, and the ulceration advances until the cornea ruptures; infection takes place and there is finally blindness.

Parenthetically, it might be mentioned that recently a large optical company has placed on the market a rather inexpensive biophotometer. The patient is kept in the dark room for ten minutes, and then subjected to three minutes of intense illumination to the eyes; then this is turned off, and the length of time required for the patient to see a dimly lighted target is measured. Failure to see it by a certain time indicates an early stage of vitamin A deficiency.

One ophthalmologist experimented upon himself and although the lowest vitamin intake he could find in the poorest classes, was 900 units, he himself took a diet rich in carbohydrates, fats, proteins, but had only 200 units of vitamin A a day. At the end of a week the biophotomoter showed an increase in the length of regenerative time, and it grew progressively longer until at the end of the month he could not see fluroscopics and had to be led to a seat in the show and had to drive a car at night with much caution. The skin remained smooth, and no xerosis occurred. At noon, he took 80,000 units of vitamin A orally and a normal meal at 12:30. By 2:00 p. m. the photometer showed improvement and he returned to normal in 3 days. This rather severe test would indicate widespread prevalence of night blindness unlikely.

In summing up my thoughts on the subject, "Avitaminosis," as we see it, I would say that I believe we have two distinct clinical entities which are farly prevalent in our section of the country, namely, trachoma and phlectenular kera-conjunctivitis. There is phlyctenular kera-conjunctivitis. There is most probable that this is less common; and that all three of these respond well to the vitamin therapy.

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A Hundred Years of Medical Progress*

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To appreciate the changes that have occurred in the last one hundred years one must recall conditions existing in 1840. There were no railroads, no telegraphs, telephones, electric lights, paved roads, airplanes, radios or mechanical refrigeration. In most of the country communication traveled at the same speed as transportation, which at its fastest was the speed of a stagecoach or a man on horseback. Today communication travels practically with the speed of light. The speed of transportation has increased to 200 miles an hour or better and we can cross the continent overnight.

From the health standpoint we had severe epidemics of cholera, the cause of which was unknown and the treatment of which was entirely ineffective. Smallpox occurred in violent epidemics. Its cause was not discovered until about 1883 and effective treatment was not devised until 1890. Diarrheal diseases claimed hundreds of lives each year. The average length of life was about forty years. It is now sixty years. In my own state we have a curious situation in which we refer to Chicago and downstate. People living downstate have an average length of life two years greater than those living in Chicago.

Surgery was still largely limited to emergency work. It was done without benefit of any anesthetic. Infection almost invariably occurred and the mortality was very high.

Dr. Crawford W. Long, who practiced in Jefferson, Georgia, was the first to use anesthesia in surgery. Curiously, nitrous oxide or laughing gas had been known since 1800 but had not been used as an anesthetic. Its inhalation was a favorite indoor sport, and at parties people took laughing gas to add to the hilarity of the occasion. Dr. Long knew that ether produced some of the same intoxicating effects. One night during a party at his home the supply of nitrous oxide was exhausted and he suggested the use of ether and took some himself. He noticed that minor injuries sustained during this ether intoxication caused no pain and reasoned that ether must dull the sense of pain. Consequently, in 1842 he performed a number of operations after first dulling the patient's sense with ether. He performed other operations the following year. Perhaps because of the lack of communication and poor transportation his experience did not become known outside of his own locality.

It remained for a dentist, Horace Wells, in Hartford, Connecticutt, to introduce laughing gas as an anesthetic to the dental profession; and another dentist, Dr. W. T. G. Morton, of Boston, persuaded his friend, Dr. John Collins Warren, to use ether as a preparation for operation. Dr. Warren removed a tumor from the neck of Gilbert Abbot, a painter, on October 16, 1846.

In 1840 women still bore their children in accord with the decree of Genesis (third chapter, sixteenth verse): "In sorrow thou shalt bring forth children." In 1591 in Edinburgh, Scotland, James VI burned at the stake on a public pyre on Castle Hill a woman named Eugenie Macalyane who had secretly applied to midwife Agnes Samson for something to ease her pains.

But in 1847, in the same city of Edinburgh, Dr. James Young Simpson gave chloroform to a woman in labor whose previous child had died because labor had lasted more than three days. It is astonishing to know that Dr. Simpson was subjected to the most bitter attacks for his success in relieving the pains of childbirth. The Scottish ministers opened on him with all their power of invective. They called him blasphemer and heretic and told him and the women of Edinburgh that "since God Almighty, in His wisdom, thought fit to impose suffering on women, it would be impious to run counter to the will of the Lord." But Dr. Simpson knew his Bible, too. He pointed out that when the Creator made Eve of Adam's rib, he first cast Adam into a deep sleep. It is interesting to find, however, that while ministers and doctors and public officials were busy with their furore, the women of Edinburgh had quietly and determinedly called Dr. Simpson to care for them in their confinements. After Queen Victoria used ether at the birth of Prince Leopold, the theologians gave up the fight.

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*Delivered before the Auxiliary to the Northeast Mississippi Thirteen Counties Medical Society in Corinth, March 12, 1940.

Long before this a country doctor in Kentucky had made medical history. Jane Todd Crawford, the wife of a farmer, in Motley's Glen, Kentucky, thought herself pregnant. She had already borne five children and thought she knew the symptoms. However, as time went on she had no feeling of life and guessed something was wrong. Neighbors were called in but the best advice she received was to send for Dr. Ephraim McDowell who lived sixty miles away. He was considered a good surgeon. He came on horseback with instruments and medicaments in his saddle bags. He arrived December 13, 1809. After examining Mrs. Crawford he decided that she had a tumor. There were no hospitals and no professors with whom he could take counsel, and the decision had to be made by him and the Crawford family. It was decided that nothing short of an operation and the removal of the tumor would be of any use, but no such operation had ever been done. He talked very frankly to Mrs. Crawford and explained the danger she was running and that the proposed operation was an experiment. She climbed upon the doctor's horse with him and went back to his home in Danville, Kentucky. The tumor rested on the pommel of the saddle. The journey required several days. Dr. McDowell had two students as assistants. The abdomen was laid wide open and a large ovarian tumor was removed. There was no anesthetic and during the operation the patient gritted her teeth and recited psalms. Another story has it that Dr. McDowell's neighbors gathered around the house during the operation and were, to say the least, very unkind in their criticism of what he was doing. Five days after the operation Dr. McDowell came into the room and found the patient making her own bed. On the twenty-fifth day she drove home and lived thirty-one years after the operation.

He did a similar operation in 1813 and a third in 1816. The report of this operation was published in 1817. He was laughed at and the wise men of the cities attempted to tell him that he had overshot his mark and was simply telling tall stories. In 1819 he reported two additional cases. This time he was respectfully listened to and found followers eventually all over the world.

J. Marion Sims was born near Lancaster, South Carolina. He would have preferred to go into business, but his father wished him to be a lawyer and spent a good deal of money sending him to school. However, he had not the slightest taste for the legal profession, neither did he wish to enter the ministry, and so he finally studied medicine as a compromise. Some of his education was obtained in Charleston and the rest in Philadelphia. He located in his own home town. After a few weeks he got his first case, an infant whose father was a prominent citizen, a tailor, and former mayor of the town. It was suffering from acute diarrhea. Dr. Sims' medicine did no good and it died. Sims wished to give up medicine but was without means and had to earn his living by what he had learned. However, he left the place where he had had so little success and went to Mt. Meigs, Alabama. He did better in Alabama and soon earned enough to afford a marriage. He still did not care for medicine and when a friend suggested going into partnership in the cloth trade and moving to Mississippi, he agreed, gave up his practice and sold his house. But just as he was about to leave, the business went to pieces and there was nothing for him to do but resume practice. In 1840 he moved to Montgomery, Alabama, where he took more interest in surgery, did a number of operations successfully and was able to open a small private clinic. At that time a successful operation had never been done for vesico-vaginal fistula. Sims made a number of improvements in instruments used in the operation and finally by using silver wire for sutures was successful in curing the condition.

As he was about to attain the success he deserved, he was again stricken with misfortune. A son died and Sims himself became acutely ill with a severe intestinal malady. He was forced to give up his practice and go to a colder climate. He arrived in New York in May, 1853, when he was forty. His colleagues were interested in his operations and came to see them demonstrated, but instead of sending patients to him they did his operation themselves and made the life of this Southern gentleman very miserable. At this time he had the idea of establishing a hospital for indigent women where they could have the benefit of this and other gynecological operations. But he had no money. A friend of his brought a newspaper man to him to whom he explained the whole situation. The newspaper man took charge, rented a hall and sent out 700 invitations to prominent physicians and laymen for a lecture by Dr. Sims on the necessity of founding a Woman's Clinic in New York. The newspapers and public supported the plan, the women raised the money, and on May 1, 1855, the Women's Hospital of the State of New York with thirty beds all free was opened with Sims as head physician. After this his life was led on two continents and he became as famous in Europe as he was in America.

In the field of public health two men from the South, Dr. Walter Reed and Dr. William C. Gorgas, have made most important contributions. Dr. Walter Reed was born in Gloucester County, Virginia, September 13, 1851. He was educated at the University of Virginia and Bellevue Medical School. In 1874 he entered the medical corps of the U. S. army as assistant surgeon with rank of lieutenant. He was army surgeon of little garrisons the United States had stationed to protect desolate regions from the danger of Indian uprisings. His only regular duty was to attend the soldiers of the post, but there was never an emergency of sickness or accident in all the country around but what Dr. Reed was called—and went. For eighteen years he served in positions like this in Arizona, Nebraska, Dakota and other western states. In 1893 he was promoted to surgeon, with rank of major, and made professor of bacteriology in the newly-organized Army Medical School. In 1898, when the Spanish-American War opened, he was appointed chairman of a committee to investigate the causation and mode of propagation of typhoid fever, an epidemic of which had broken out among the soldiers. His Report on the Origin and Spread of Typhoid Fever in U. S. Military Camps (1904) revealed a number of points not before known and emphasized others which had been little appreciated. In 1899 he was appointed chairman of a committee, the other members of which were Drs. James Carroll, Jesse W. Lazear and Aristides Agramonte, to study the yellow fever situation in Cuba. Yellow fever was always present in Havana. No one knew how it came. It was found where filth existed and consequently was thought to be due to filth. Another idea was that it was carried in the air or was communicated by touching clothing or other articles handled by a yellow fever patient. Quemado, Cuba, was chosen by the committee as the site of its studies. For a year and a half the most rigid sanitary measures were enforced. The number of deaths from other causes was greatly diminished but the quota from yellow fever remained the same. It seemed that it could not be caused by filth. A Cuban physician, Dr. Carlos Finlay, had offered the suggestion that the fever might be carried by the bite of a mosquito. It was scoffed at by most as a crazy theory, but Dr. Reed determined to experiment until he found out for a certainty that the mosquito had nothing to do with it. Dr. Carroll allowed himself to be bitten by one he knew to be infected. In a few days he developed yellow fever. He recovered but his health was so impaired that he died two years later. Dr. Lazear was bitten twice. There were no results from the first biting but the second proved fatal. A new experiment camp one mile away from Quemado was built and named in his honor Camp Lazear. Two experiment houses were built. One was known as the infected-clothing building. Here were placed the clothing and bed clothing of known yellow fever patients and the rooms were purposely left dirty and dark and hot and damp and ill ventilated. The other building was known as the mosquito-infected building. Here there was nothing but mosquitoes to convey the disease. It was as clean and airy and sunny and well ventilated as a house could be made. Then volunteers slept in these buildings. For twenty nights in succession the men in the infected-clothing house slept in the yellow-fever beds, handled the articles used by those who had the disease and breathed the air that had passed over them. Not one of them took the yellow fever. In the other house, ten out of the thirteen came down with it. Fortunately, all of the cases were light and none died.

Major Reed's experiments and the courage of his brave helpers in carrying them out proved conclusively four things:

Yellow fever is not, properly speaking, contagious. It is not carried by clothing. It does not infect the house. Its method of transmission is by the bite of a female mosquito called Stegomyia fasciata which has previously bitten a patient sick with yellow fever. (The male mosquito of this kind does not bite). The spread of the fever can be completely prevented by the destruction of the mosquito or the protection of the sick against her bite—since she cannot carry it if she is not infected.

Although Dr. Reed escaped with his own life, his health was so broken that he died November 23, 1902, before he had fairly begun to reap the honors which were beginning to follow his great work.

Dr. William C. Gorgas was born in Mobile, Alabama, in 1854. He was educated at the University of the South, Sewanee, Tennessee, and Bellevue Hospital Medical College, New York. From 1809 to 1902 he was chief officer in charge of sanitation measures in Havana. In 1898 Havana was one of the most unhealthy cities in the world, partly because of the high incidence of yellow fever and partly because of the prevalence of typhoid. Sanitary conditions in the city were execrable. Streets were unpaved, mud-holes were everywhere, carcasses of dead animals remained for days in the streets, housewives disposed of their garbage by dumping it into the streets where it accumulated. Under Dr. Gorgas' charge in a few months the conditions in Havana were entirely changed and it became cleaner than the average American city. After Walter Reed and his commission had proved the mosquito was the agent in the spread of yellow fever, it devolved on Gorgas to rid Havana of it. He instituted a vigorous campaign embracing the screening of houses, the cleaning up of vegetation within 200 yards of dwelling places and the pouring of oil on any collection of water. The campaign was so thorough that a card index was kept of all utensils which might hold water and breed mosquitoes on the premises of each citizen. Regular visits were made by inspectors to investigate the condition of these utensils. The result of these measures was a steady decline in the incidence of yellow fever and malaria as well. A day came in 1901 when there was not a single case of yellow fever in Havana for the first time in its history.

Because of his success in eliminating yellow fever there he was made assistant surgeon general, U. S. Army, with rank of colonel by special act of Congress in 1903. In 1904 he was sent to Panama as chief sanitary officer. Panama was known as the White Man's Grave because of the appalling death-rate from tropical diseases. The two main obstacles to building the canal were yellow fever and malaria. Despite his sensational work in Cuba the commissioners laughed at him and the mosquito theory and so restricted his efforts that they were almost futile. It required an epidemic of yellow fever which caused panic among the workmen and wholesale desertion that almost stopped work on the canal before the authorities in Washington gave orders that Gorgas was to have his way. He instituted measures similar to those used in Cuba and these were so effective that in two years he eliminated yellow fever from the canal zone and brought malaria under control. Ten years after his work began, the death rate in the Canal Zone per one thousand of population was 6 as compared with 14.1 in the United States. The White Man's Grave had become the most healthful spot in the world.

At his death in London in 1920 the funeral services were conducted by the British government at St. Paul's Cathedral with all the ceremony accorded to one of her own great warriors, or statesmen. He was buried in Arlington National Cemetery, Washington, D.C. In his honor were established the Gorgas Memorial Institute of Tropical and Preventive Medicine, Inc., Washington, D. C., and the Gorgas Memorial Library of Tropical Research, Panama.

During this century important contributions have been made by a number of women. Florence Nightingale was born at Florence on May 12, 1820, and named after that city, but her childhood was spent in England, mainly in the country at one of her father's houses, but with periodical visits to London. She received a good classical and mathematical education at home under her father's guidance. She began to visit the hospitals in 1844. In the winter of 1849-1850 she made a tour of Egypt by way of Paris. On the trip she met two sisters of St. Vincent de Paul, who gave her introductions to their order in Alexandria, where she visited their schools and hospital. From the sisters she learned the importance of formal discipline in hospital nursing. Then she visited the Institute of Protestant Deaconesses at Kaiserwerth, returning the next year for four months to study the organization and to undergo a regular course of training as a nurse. She then studied hospitals in London and Edinburgh and in 1853 was in Paris studying nursing organization there. August, 1853, she became superintendent of the Hospital for Invalid Gentlewomen in London.

In 1854 England was stirred profoundly by the report of the sufferings of the sick and wounded in the Crimea. She wrote to her friend, Sidney Herbert, secretary of war, and offered her services. She set out October 11 with a staff of thirty-eight nurses. The story of Florence Nightingale's labors in the huge insanitary barrack-hospital at Scutari became a legend in her lifetime, a legend diffused over the English-speaking world by Longfellow's verses on "Filomena." She would stand for twenty hours at a stretch to see the wounded accommodated. She regularly took her place in the operation room to hearten the sufferers and at night she would make her solitary round of the wards, lamp in hand, stopping here and there to speak a kindly word. Soon she had 10,000 men under her charge, becoming general superintendent of all the hospitals on the Bosporus. Actual superintendence of the hospitals and nursing was only part of her work. She wrestled daily and successfully with the military authorities, especially the commissariat, who regarded her as a dangerous innovator and tried to thwart her efforts to break through mazes of red tape. Finally she won. The death rate in hospitals was 42 per cent in February, 1855; in June it was 2 per cent. She visited the hospitals at Balaklava, caught Crimean fever and was dangerously ill for twelve days. However, she refused to leave her post and remained alternately at Balaklava and Scutari until Turkey was evacuated by the British in July, 1856. A man of war was ordered to bring her home to a triumphant reception; she quietly returned on a French ship, crossed to England and escaped to her country home before news of her return could leak out.

With the 50,000 pounds raised in recognition of her services she founded the Nightingale Home for training nurses at St. Thomas' Hospital. She was the effective founder of the nursing system in England. She also turned her attention to the question of army sanitary reform and army hospitals. In 1858 she published her "Notes on Matters Affecting the Health, Efficiency and Hospital Administration of the British Army." These 800 pages formed the basis of the Royal Commission to inquire into the health of the army and are a classic in the literature of army medicine. She helped to establish various institutions for nursing from the East London Nursing Society in 1868 to the Queen's Jubilee Nursing Institute in 1890. She was 87 years old when the Order of Merit was brought to her in 1907 and died three years later.

Clara Barton was born in Oxford, Mass., in 1821. During the Franco-Prussian War she assisted in organizing military hospitals. In 1871 she superintended the distribution of relief to the poor in Strasbourg and performed a similar service in Paris in 1872. For her services she was decorated with the Iron Cross by the German emperor. In 1873 she returned to the United States and began her efforts to organize the United States branch of the Red Cross and to bring her country into the Treaty of Geneva. She was successful in 1881-82. She was the first president of the American Red Cross and held the position until 1904. She was the author of the amendment to the constitution of the Red Cross which provides that the society shall distribute relief not only in war but also in times of such calamities as famines, floods, earthquakes, pestilence, etc. She conducted the society's relief for sufferers of yellow fever in Florida (1887), the flood at Johnstown, Pennsylvania (1889), the famine in Russia (1891), the hurricane along the coast of South Carolina (1893), the massacre in Armenia (1896), the Spanish-American War in Cuba (1898), the hurricane at Galveston, Texas (1900), and several other calamities. She wrote "An Official Story of the Red Cross," "The Red Cross in Peace and War," "A Story of the Red Cross," and "Story of My Childhood." She died on April 12, 1912.

Marie Sklodowska was born in Warsaw on November 7, 1867, and received her early scientific training from her father, Dr. Sklodowska. She became involved in the students' revolutionary organization and found it advisable to leave Warsaw. First she went to Cracow, then under Austrian rule, and later to Paris, where she took a science degree at the university. She married Pierre Curie in 1895. After the discovery of the radio-active properties of uranium by Henri Becquerel in 1896 the Curies began their researches into radio-activity and in 1898 obtained polonium and radium from pitchblende which they had subjected to a very laborious process of fractionation. In subsequent years they did much to elucidate the properties of radium and its transformation products. In 1903 they were awarded the Davy medal of the Royal Society and in the same year the Nobel prize for physics was divided between them and Henri Becquerel. Later she worked in the laboratory created for her husband. After he was run over by a dray April 19, 1906, she succeeded him as professor at the Paris University and in 1911 was awarded the Nobel prize for chemistry. In 1921 President Harding on behalf of the women of the United States presented her with a gramme of radium in recognition of her services to science. On her second visit to the United States in 1929 she received from the hands of President Hoover a gift of $50,000 from American friends of science to purchase radium for use of a laboratory in Warsaw.

In 1840 when the doctor was called to see a patient, all the examination he could make was with his five unaided senses. The fever thermometer did not come into general use until about 1870. It was about a foot long, was carried under the arm like a gun and used to take the axillary temperature. It required five minutes to do the job. There was none of the various scopes we now have—cystoscope, bronchoscope, etc.—for viewing the interior of any organ. Roentgen discovered the x-ray in 1895.

In the field of therapeutics our progress has been equally great. In the decade from 1880 to 1890 the causative germs for typhoid, tuberculosis, Asiatic cholera, diphtheria, anthrax and other diseases were discovered. This made possible the development of serums and vaccines either for curing disease or rendering persons immune. Only within the past few years have we had serum effective in pneumonia and even more recently the synthetic drugs, sulfanilamide and sulfapyridine.

Consider the picture today. The United States has a lower loss of life from diphtheria than does any other first-rate nation in the world. 1938 was the best health year the United States has ever known. It was not only the best we have ever known, but there was no other country of comparable size and population which has ever enjoyed an equal degree of health.

We die of causes different from those that killed our forefathers. The diseases that occupied the top places as killers even 50 years ago have either practically disappeared or assumed places of relatively little importance. In their stead has come a new set—cancer, heart disease, cardiovascular disease, automobile accidents. There are various reasons for this. One is the increased length of life. We live long enough to be attacked by diseases that are largely limited to middle age or beyond.

The changes have affected the distribution of medical care. A doctor thirty miles from a patient now is closer in point of time than a doctor who was only five miles away in 1840. The same could be said of hospitals. Some 3,900 plans initiated by the medical profession for increasing the distribution of medical care to persons in the low-income group have been or are being tried.

At this time I want to pay my profound respect to the so-called country doctor. For the most part he does an excellent job. Under the circumstances surrounding him he undoubtedly does better work than could any member of the committee of 400, some of whom speak disparagingly of the man with the little black bag. Probably most of this audience were ushered into the world by such a doctor and have since been attended by him.

The Use of Vitamin K In Functional Uterine Bleeding

W. L. STALLWORTH, M.D.
COLUMBUS, MISS.

THIS PAPER is only intended to cover the subject of uterine bleeding of a functional nature. By functional uterine bleeding, we mean abnormal uterine bleeding that occurs when the pelvic organs are normal and when no constitutional disease or blood dyscrasia is present to account for it. This may occur at any age from puberty through the menopause.

There exists quite a diversity of opinion as to the etiology of functional uterine bleeding. In the majority of such cases, there exists a hyperplasia of the endometrium of which the so-called "Swiss cheese pattern" described by Novak is a typical example. In such cases, we find the severer type of bleeding. However, minor disorders occur in cases showing a more or less normal endometrium or with an atrophic endometrium.

The concensus of opinion as far as I can determine is that these changes are due to a prolonged action of the estrogenic hormone and a suppression of ovulation. (Schroeder, Novak and Martzloff, Burch, and others). Frequently, a large cystic ovarian follicle is found with the absence of corpus luteum formation. These follicles may enlarge and secrete estrogen as long as there is no atrophy of the granulosa cells. The continuous secretion of estrogen causes endometrial hyperplasia, and cessation or decrease in this secretion allows a regression of the hypertrophied endometrium with consequent hemorrhage. It might be, however, that insufficient secretion of the gonadotropic hormone from the anterior pituitary gland might cause the development of cystic follicles or that the ovarian tunic might be too thickened to admit rupture of the follicle.

TREATMENT

It is essential to make a thorough physical examination to rule out any pelvic pathology. A complete blood picture is made, coagulation time, and platelet count, rule out blood dyscrasias. A basal metabolism determination and Kline test are also made.

Most of these cases have been controlled by the administration of the anterior pituitary-like hormone given daily for several doses, this to be repeated 24 days after the first injection, and then 24 days after the beginning of the ensuing menstrual cycle. This has controlled most of these cases.

The patients showing a low basal metabolic rate are given thyroid, and hematopoietic stimulants are given for the secondary anemia. The use of radium or hysterectomy should rarely, if ever, be resorted to if the case is a truly functional type of uterine bleeding, unless the patient is around the menopause. The curet should be used only if necessary for diagnostic purposes.

CASE REPORTS

I would like to present four cases of functional uterine bleeding in which a somewhat different therapeutic regimen was followed. Three of these cases were around the age of puberty, one a patient of 36 years of age.

CASE 1

V. S., a white girl aged 16, was referred by an out-of-town physician in May, 1937. She had begun menstruating four months prior to this time. The first period was somewhat prolonged, with an increase in the amount and duration of flow for the next two periods. The last menstrual cycle, which had begun twenty-two days prior to the time she was referred to me, had been continuous. She had had two curettages and had been packed twice.

At the time of examination she was somewhat emaciated. Physical examination revealed nothing abnormal, except that pelvic examination under gas anaesthesia showed an infantile type of uterus, markedly anteflexed. A blood picture showed a marked secondary anemia. The basal metabolic rate was minus 14. She was given two transfusions of whole blood, antuitrin-S by injection. Thyroid therapy was begun. This controlled her bleeding as long as she was under my observation, which was about four months.

She was again seen by us in May, 1939. Since the first treatment, she had been seen by several physicians, due to a recurrence of the bleeding. She had received glandular therapy in various forms and radium therapy in August, 1938.

Examination showed very little difference in the infantile type of uterus previously mentioned. Diagnostic curettage revealed a hyperplasia of the endometrium. Blood examination showed the red blood cells to number 2,250,000, hemoglobin 52%, coagulation time 6½ minutes, bleeding time 8 minutes. The basal metabolic rate was minus 8.

She was given Klotogen's .6 grams, three times daily, with bile salts. This was continued for six days with a cessation of bleeding. This has been repeated at the beginning of each menstrual cycle to date; the duration of the periods has been five to six days and they have been apparently normal. No glandular or other therapy has been given, except for treatment of the anemia.

CASES 2 AND 3

Cases 2 and 3 were very similar to the first mentioned case except that they were seen earlier and had not had such a prolonged treatment. Both were girls at puberty. They were treated similarly and with good results.

CASE 4

The fourth case was a graduate nurse, age 39, on whom physical examination showed nothing abnormal except an infantile uterus. Curettage specimens revealed a marked endometrial hyperplasia. She was treated in a similar way, with a complete control of the bleeding.

These four cases have been observed for a period of about eight months with no recurrence of the symptoms.

The use of vitamin K in the treatment of prothrombin deficiencies, such as occur in obstructive jaundice and hemorrhagic disease of the newborn, suggested that it might be helpful in these cases. However, a recent article by J. E. Rhodes in International Clinics states that a prothrombin deficiency does not occur in functional uterine bleeding. We are not in a position to deny or confirm this statement, due to the fact that we are not equipped to carry out such tests.

In examining the dietary habits of these four patients, it was found that goods containing an appreciable amount of vitamin K were almost entirely excluded from their diets.

I feel that these cases of true functional uterine bleeding could have a more careful study to determine whether a vitamin deficiency really plays some part in the etiology.

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TO THE MEMBERS OF THE MISSISSIPPI STATE MEDICAL ASSOCIATION

Dear friends:

As the time draws near for the annual meeting of the Mississippi State Medical Association, a most cordial invitation is extended you to attend this gathering of the doctors of the state.

The program, already sent you by the secretary, is well worth studying, and in the various sections you can find something that is along your particular line of work.

The essayists are outstanding men, both in their own achievements and in their ability to impart this to others.

The didactic instruction is to be desired, and the entertainments that will be provided you, as the guests of the Central Medical Society, will repay you for coming to Jackson on this occasion.

During the past year your president has covered almost the entire state in your interest, and he can truthfully say that there is no latitude or longitude in our state relative to good doctors, for there are capable and true medical men in every part of our state.

Officially he has enjoyed doing your work and personally he has received an inspiration from renewing old acquaintances and making new friends among the doctors of Mississippi.

He is grateful to you for the confidence you have shown him, and under lasting obligations for the wonderful co-operation you have given him.

So please come and meet with us on the days of the Association meeting.

Remember:

> "Every doctor needs organized
> medicine and organized medicine
> needs every doctor."

Sincerely yours,

J. P. WALL, President of the Mississippi State Medical Association.

THE ANNUAL MEETING

The Annual Meeting of the Mississippi State Medical Association will open Tuesday, May 14, at the Robert E. Lee Hotel in Jackson. Every member of the Mississippi State Medical Association is urged to attend this meeting which promises to be one of the best we have had.

There are some outstanding visitors and the program, made up by the members in their various sections, bids fair to be one of the best presented before this body. The local Committee on Arrangements from the Central Medical Society, of which your editor is chairman, is making every effort to make this meeting a success. It is believed that such efforts as are being made will assure you of a good scientific program, excellent commercial exhibits, outstanding scientific exhibits, unusual entertainment, and everything that you could desire in a state medical meeting.

—L. W. L.

President Percy J. Wall of Jackson has been a very active president of the association. He has spent his time and his means very freely in an effort to render valuable service to the association. Dr. Wall is the type of man who should be able to render fine service as president. He is broadly and thoroughly educated in medicine, most versatile in the field of literature, and he keeps up to the last minute with current events. Throughout the state he has carried valuable information, he has been ever mindful of the wishes of the association, and he has not failed to indicate the way of greater accomplishments of the profession and to inspire it with his eloquence.

Dr. Wall is a native of Magnolia, Miss. He received his B. S. Degree from Millsaps College, paid his way by tutoring in Greek, this being, no doubt, one of the sources of his versatility. He received his Medical Degree from Columbia University Medical School where again his scholastic standing won him finincial aid in form of scholarship. He then took two years intern at Belvue winning the place on competitive examination and standing at the head at the list of 141. He took the state board for licence in New York and holds, we understand, the only goal seal issued to Mississippi men. In 1909 he returned to Jackson Miss. where he has practiced ever since except the time he was doing service in the world war from 1916 to 1919. He was over seas for twenty-two months and won his majorship in actual service. In the army he was devoted on the job as he was a student and in private practice. He was not wounded in the war except "scare injuries" that gave him some close calls. For four years he was in charge of Jackson Sanitarium. He is now on the staff of The Miss. Baptist Hospital of Jackson an serves as secretary of the Board of Trustees. He is chairman of the Hinds County Division of Public Welfare Organization. For many years he was the able speaker of the house of deligates of the Miss. State Medical Association, is a prominent member of the American College of Surgeons. You might say that Dr. Percy Wall belongs to all the medical, civil and church organizations and does his part well by each and every one. He has made his impress on Mississippi medicine and will render much servicien in the future.

The indications are that the seventy-third annual meeting of the Mississippi State Medical Association, which convenes in Jackson with the Robert E. Lee Hotel as headquarters, will be one of the very best the association has ever had. The scientific program is certainly one of the best we have had. No meeting, we are sure, has been better planned than this one, both for profit and for pleasure. The major purpose is the advancement of scientific medicine as evidenced by the program. Medical economics will come in for its share. Good medical fellowship will be activated in every way. Due consideration has been given to sports and banqueting. The Woman's Auxiliary comes in with a fine program. The Mississippi Chapter of the American College of Surgeons will meet on Monday afternoon and evening with Dr. W. W. Crawford as president and will render a very fine program to which the medical profession is cordially invited. The Mississippi State Pediatric Society will also meet on Monday 13. A most interesting program has been arranged for this meeting and each member of the medical association is cordially invited. The exhibitors, both scientific and commercial, will add their part to the success of the meeting. Jackson is our capital city. It is centrally located in our state; it is the cross roads of the Mid-South, the fastest growing city within its borders and it is a progressive city. It has the very best hotels to be found in the South. Their food is good and their service is most cordial and friendly. The people of Jackson are always delightful guests and are most generous in every way. The city and the people will be on tip-toe with the best foot forward at this meeting in honor of their beloved Dr. Percy Wall, president of the association. The doctor in Mississippi who misses this association will suffer a definite loss. If at all possible, it is the duty of each member to attend his state meeting for his own good and for the good of his clientele.

We are glad to note that the number of exhibitors at our state meeting have been increasing steadily for the last few years, both commercial and scientific. This is as it should be. Scientific exhibits constitute the very best form of teaching. They teach the men who prepare them and they furnish an easy plan for those who wish to learn. We should appreciate the painstaking work on the part of those who prepare them. The ethical commercial exhibitor is working hand in hand with the profession. He can teach us much in many ways. Think of the money that was expended in the rapid preparation of insulin and other products to make it available to the people at an early date. The same is true of many other products. These companies are helping to cut down the time between the discovery of new remedies and medical and surgical appliances and the application of same in general practice. Their agents may be at fault many times in many ways, but yet they learn much from the profession as they go from one to the other and they are in a position to pass on valuable information. In a large measure the commercial houses finance our associations and our journals and we believe in a large measure they are inspired by a noble purpose as is the medical profession. We believe that the medical profession and the commercial exhibitors should work co-operatively for the good of the people. We are sure that the doctors of Mississippi appreciate the exhibitors much more than they did just a few years ago. Give the exhibitors, both scientific and commercial, a co-operative hand of appreciation.

The Woman's Auxiliary is a helping organization, a helper to the medical association. Its opportunities are great, greater than ever before. The success of any doctor, as a rule, depends largely upon the aid of his wife. She is the helper, she is the buffer, she is the sympathizer. She helps, or should, to keep the doctor fit, mentally and physically. She helps to present him well and to aid him in applying what he knows in better form. When the sick patient is irritable and unreasonable, her soft voice over the phone may turn away anger; and a sincere but evasive answer may give the doctor a chance to eat a meal or catch a little needed sleep. When people do not understand she can help to explain, she can show how hard the doctor works for the good of the people and how little is paid for these services often times. Sometimes sympathy is more powerful than medicine, the doctor needs his share and the sick patient and troubled folk must have a generous supply. The wife, the auxiliary, can do wonders with a kind deed served with an interested smile. The base of the medical profession has been broadened and its opportunities are bigger and broader than ever before, reaching every form of human interest. It is imperative to know a person in all of this relation to life, to know when and of whom he was born and how and under what circumstances he has lived is of the greatest importance and herein lies a great field for the helpers. With our population nearly doubled and a rapid decrease of the number of doctors in our state, the auxiliary can certainly do much to help the medical profession in its ever widening field of service to a needy people. We believe the Woman's Auxiliary will meet its responsibilities and live up to its opportunities. It is time to dream dreams and to apply practical means of realization. In this the Auxiliary can be a co-worker in reality.

We express our appreciation to the Upjohn Company for taking space with us. We would ask our readers to give this well established company due consideration.

THE FOLLOWING essayists will address the seventy-third annual session of the Mississippi State Medical Association. Make your plans to hear as many of these men as possible, not forgetting the luncheon hours.

ENTERTAINMENT FOR STATE MEDICAL ASSOCIATION

MONDAY, MAY, 13, 1940

2:00 P.M.—Robert E. Lee Hotel
Jackson, Miss.

Mississippi Section American College of Surgeons.

Banquet, 6:30 P.M.

Mississippi Pediatric Society, 3:00 P.M.

Banquet, 6:30 P.M.

Both organizations have Fellowship Hour, 5:00-6:00.

TUESDAY, MAY 14

Robert E. Lee Hotel, Jackson

Mississippi State Medical Association.—

General Session—1:30 P.M.

Invocation: Dr. G. T. Gillespie, President of Belhaven College.

Fellowship Hour, 6:30-7:30.

Evening Session (Public)—Convention Hall, Robert E. Lee Hotel, 8:00 P.M.

Invocation: Dr. H. M. King.

Address of Welcome for the City of Jackson—Mayor Walter A. Scott.

Address of Welcome for the Central Medical Society—Dr. John Darrington, Yazoo City, Mississippi.

Response for the State Medical Association—Dr. W. H. Anderson, Booneville, Mississippi.

Introduction of Guest Speaker: Dr. J. P. Wall, Jackson, Mississippi.

Annual Oration—Dr. Irvin Abell, Louisville, Kentucky.

Entertainment by Magician.

Dance.

Eye, Ear, Nose and Throat—1:30 to 6:30 P.M.

Roundtable luncheon—12 noon.

Guest speakers: Dr. Ellett and Dr. Shea, Memphis.

Hygiene and Public Health—1:30 to 6:00 P.M.

Guest speaker: Stuart P. Cromer, Little Rock.

WEDNESDAY, MAY 15

Medicine—9 A.M. to 12:30 P.M.

Guest speakers: R. H. Kampmeier, Vanderbilt Noshirlle.

Surgery—2:00 to 6:00 P.M.

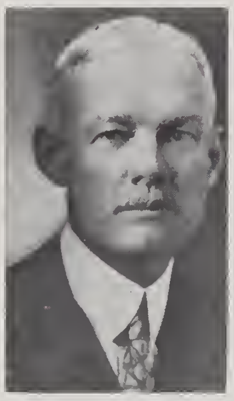
Guest speakers: Edward W. Davis, Washington, D. C.

(Continued Thursday morning)

DR. D. E. STATON

Dr. D. E. Staton, Chairman of Section on Eye, Ear, Nose and Throat. Dr. Staton is an active and progressive leader in his field of work in the Northeast Thirteen Counties Medical Society. He lives at Columbus, Miss., one of the beautiful towns of prewar days of our state. Dr. Daniel Eli Staton is a Fellow of American College of Surgeons, graduated from Tulane University Medical School in 1909. Ophthalmologist and Otorhinolaryngologist, Columbus Hospital, Ophthalmic Surgeon, C. & G. Railway, member Sigma Chi Fraternity, past-president Kiwanis Club.

DR. EDWARD C. ELLETT



Dr. Edward C. Ellett, of Memphis, Tenn., the outstanding guest speaker on the section of Eye, Ear, Nose and Throat at our state meeting May 14, 15 and 16. Dr. Ellett is a native of Memphis, Tenn., and one of which this city and state should well be proud. While he is a native of Memphis, he is a citizen of the medical world. The sun never sets on members of the medical profession who know his name and praise his work. Dr. Ellett is past-president of Memphis and Shelby County Medical Society and Tennessee State Society and the American Academy of Ophthalmology and Otolaryngology; member of American College of Surgeons. What he has done in the field of ophthalmology speaks so loud it is not necessary to read his biography. We are honored to have him on the program this year. Dr. Ellett's subject is "Discussion of Some Points in Eye Surgery."

DR. ALSTON CALLAHAN

Dr. Alston Callahan, of Vicksburg, who is an outstanding leader in his field of practice. His subject on the state program will be "Tumors of the Orbit." Dr. Callahan writes reviews for THE MISSISSIPPI DOCTOR. You know him through these. We are sorry we do not have more information on his professional record. He is a man of alert and progressive ideas and a tireless worker.

DR. JOHN J. SHEA

Dr. John J. Shea, of Memphis, Tenn., a native of that city, is an outstanding guest speaker for the section on Eye, Ear, Nose and Throat. His subject is "Frequent Errors in Tonsil and Adenoid Surgery." Dr. Shea is nationally known in his special field. He is a Fellow of the American College of Surgeons, is on the examing board of otolaryngology; a Fellow of American Laryngological Association. He has written many articles for various medical journals.

DR. FRED GEISENBERGER

Dr. Fred Geisenberger, of Natchez, the city that was the center of wealth and culture in antebellum days, will discuss "Modified Barraquer Suction Extraction of Cataracts." He is a graduate of the University of Tennessee, a member of his local and state societies and the Southern Medical Association, a member of the staff at Natchez Sanatorium, and Head of the Eye, Ear, Nose and Throat Department of the Natchez Charity Hospital. He is one of the progressive leaders in this field in our state.

DR. W. LAUCH HUGHES

Dr. W. Lauch Hughes, Jackson, has been a leader in his field, Eye, Ear, Nose and Throat for a number of years. His subject will be, "Diseases of the Naso-Pharynx." You will recall his good work recently on this section.

DR. W. E. NOBLIN

Dr. W. E. Noblin, director of Public Health of Jackson and Hinds County. He is a native Mississippian, born in Homewood, graduated from the University of the South in 1898, began practice in 1899 in Yazoo City where he served as part-time county health officer from 1918 to 1927. For thirteen years he has served Jackson and Hinds County as health officer. He has the ability to keep on when once he puts his hand to any undertaking.

DR. WILLIAM DANIEL HICKERSON

Dr. William Daniel Hickerson, of Sanatorium, who will appear on the Public Health program. He is a man of fine personality, thoroughly trained in his specialty, and deeply interested in the work of his profession. He has served as director of Field Clinic Service of the Sanatorium for six years. The following is a brief professional history: University of Virginia Medical College, B.S., M.D. 1920-26. Cincinnati General Hospital 1926-27. Resident in Tuberculosis, Hamilton Co. Sanatorium, Cincinnati, 1927-28. Director Tuberculosis Control, Cincinnati, 1928-30. Clinician, Tuberculosis Study, Tennessee, 1930.33. Henry Phipps Institute, Philadelphia, 1932. Trudeau School of Tuberculosis, Saranac Lake, N. Y., 1933. U. S. Army, World War 3 years. Joined Sanatorium staff June 1, 1934. Member: Central Medical Society, Mississippi State Medical Ass'n., Southern Medical Ass'n., and American Medical Ass'n.

DR. WILLIAM E. NOBLIN, JR.

Dr. William E. Noblin, Jr., of Jackson, Miss. He was born in Yazoo City, October 19, 1907. He took his pre-medical work at the University of Mississippi and his M.D. from Emory University in 1934, interned at Eggleston Children's Hospital in Atlanta and at Charity in New Orleans, member of Thi Chi and Delta Tau Delta. At present he is doing obstetrics and gynecology in Jackson and is a member of the staff of the Jackson Infirmary and The Baptist Hospital. He is a forward looking young man in the medical profession and is steadily pushing to the front.

DR. LEON S. LIPPINCOTT

Dr. Leon Stanley Lippincott, of Vicksburg, Miss., born in Augusta, Maine. A. B. Bowdoin College in 1910; M.D. Bowdoin Medical School, 1913; Instructor and Assistant Professor Bowdoin Medical School, 1913-1917; U. S. Army Medical Corps, 1917-1919; First Lieutenant, Captain, Major; Chief of Laboratory Service, Base Hospital 72, overseas. Director of Laboratories, Vicksburg Sanitarium, 1919. Fellow: American Medical Association; American Society of Clinical Pathologists; American Public Health Association. Certificate from American Board of Pathology. Secretary-treasurer of Mississippi State Hospital Association. Theta Delta Chi and Alpha Kappa Kappa fraternities. Mason, Knight Templar, Shriner, Knight of Pythias, Elk.

Dr. Lippincott's love for thoroughness is activated by his unusual capacity for work.

DR. STUART PEYTON CROMER

Stuart Peyton Cromer, of Little Rock, Arkansas, is the guest speaker for the Public Health Section. Dr. Cromer is a native of Springfield, Ohio. Degrees: A.B., Wittenberg College, 1916; M.A., Ohio State University, 1927; Ph.D., Northwestern University, 1933; and M.D., Northwestern University, 1935. Taught school for fifteen years. Connected with faculties of Northwestern University Medical School and Baylor University College of Medicine. Served as superintendent of the Illinois Research and Educational Hospital, Chicago, and hospital inspector for the Council on Medical Education and Hospitals of the American Medical Association. Assumed the duties of dean of the University of Arkansas School of Medicine, July 1, 1939.

Mississippi is honored to have this outstanding educator on the Public Health program. We welcome him most cordially from our sister state.

DR. IRA B. SEALE

Dr. Ira B. Seale, of Holly Springs, chairman of Section on Medicine, was graduated from Memphis Hospital Medical College, is a Fellow of the University of Tennessee. Has done postgraduate work at Illinois Postgraduate School, Chicago, and at Tulane also. He rendered valuable service on the State Board of Health during Whitfield's administration; he was first president of the North Mississippi Medical Society, district surgeon for the I. C. Railway Company, is past-president of the Rotary Club; chairman of Board of Deacons of Baptist Church; member of Board of Trustees of Baptist Memorial Hospital; member of Board of Trustees Blue Mountain College, and on Executive Committee Baptist Brotherhood of the South. Dr. Seale is not only an able practitioner but is one of the outstanding citizens of the state.

DR. DOUGLAS D. BAUGH

Dr. Douglas D. Baugh, of Columbus, a native Mississippian. B.S. graduate of University of Mississippi. He received his medical degree from the University of Pennsylvania. Interned at Turo Infirmary at New Orleans. Has done postgraduate study at Columbia University, New York City, and at John Gaston Hospital. He is a Fellow of the American College of Physicians. His specialty is internal medicine. Dr. Baugh is one of the active outstanding, progressive and growing men in the medical profession of our state. His subject is "Intercepting Cancer in the Female Reproductive Organs."

DR. LYLE MOTLEY

Dr. Lyle Motley, of Memphis, guest speaker of the medical section of our state meeting. His subject is "A Consideration of Some Points in the Diagnosis and Treatment of Indigestion." Dr. Motley is a native of Virginia. He graduated in medicine from Vanderbilt University; he is a Fellow of the American College of Physicians and a member of the leading medical societies of the country. Dr. Motley is now one of the outstanding men of medicine in the Mid-South. We are delighted to have him appear on the medical section.

DR. C. E. WARD

Dr. C. E. Ward, of Jackson, a native of Tupelo, whose subject on the medical section will be "Treatment of Eczema in Children." Dr. Ward received his B.S. degree from the University of Mississippi and his medical degree from Tulane in 1930. He served an internship in the United States Public Health Service Hospital in Norfolk, Va., and later was professor of physiology at the University of Mississippi Medical School for two years.

He entered the Mayo Foundation, Rochester, Minn., as a fellow in pediatrics in 1933, was appointed first assistant in pediatrics in 1936 and associate in pediatrics in 1937. He received the degree of M.S. in Pediatrics in 1938 from the University of Minnesota and entered the private practice of pediatrics in Jackson, Mississippi in March 1939, in which year he also became a licentiate of the American Board of Pediatrics.

DR. J. G. ARCHER

Dr. J. G. Archer, Greenville, whose subject on the medical section will be, "Some Observations of Bundle and Branch Block." Dr. Archer is associated with the Gamble brothers and Montgomery. This clinic is a great credit to our state. Dr. Archer is well known and his ability is recognized not only in Mississippi but in the Mid-South.

DR. R. H. KAMPMEIER

Dr. R. H. Kampmeier of Nashville, Tennessee, an outstanding guest speaker for the medical section whose subject is "Benign Tertiary Manifestations of Syphilis Presenting Difficulties in Diagnosis." We are always interested in essayists who come from Vanderbilt University, one of the great outstanding medical schools of the nation where our able and beloved Dr. W. S. Leathers is dean. Dr. Kampmeier, who was born in Clarksville, Iowa, received his M.D. degree at State University of Iowa Medical College, Iowa City, Iowa, 1923. Four years in private practice, four years on medical staff of the University of Michigan Medical School, Ann Arbor, Michigan, four years on the medical staff of the Louisiana State University Medical Center, New Orleans, La., and four years on the medical staff of Vanderbilt University Medical School, have provided him a foursquare experience.

DR. A. V. BEACHAM

Dr. A. V. Beacham, Magnolia, will appear on the medical section. His subject: "Systemic Effects of Frequently Overlooked Urinary Diseases. Dr. Beacham is one of the brothers who stayed in the home town. He is doing a fine job of it. You will recall the dedication of the Beacham Memorial Hospital last December. Dr. Rudolph Matas was the chief speaker on the occasion. Dr. Beacham is already a leader in organized medicine. He is a fine student and his paper will be good. He is a native Mississippian and a graduate of Tulane.

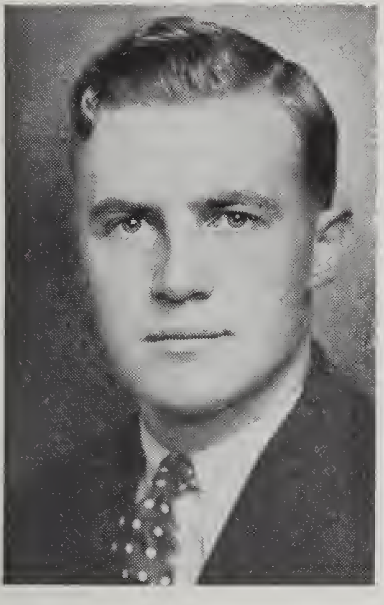
DR. E. E. BENOIST

Dr. E. E. Benoist, of Natchez, chairman of Section on Surgery, is a native Mississippian. He received both his literary and medical degrees from Tulane University, interned at Lying-In Hospital in New York and also at Roosevelt Hospital. Dr. Benoist is a general surgeon and has written many papers for publication in the medical journals. He is to be congratulated on the essayists he has secured for the surgical section.

DR. W. H. PARSONS

Dr. W. H. Parsons, of Vicksburg, who will read a paper before the surgical section on "The Indications for and Results from Operations on the Biliary Tracts." Dr. Parsons' ability has been recognized for some time, not only in his home city, but throughout the state. He is a thorough student.

DR. JOHN C. HENTHORNE



Dr. John C. Henthorne, of Jackson, who will appear on the surgical section. His subject will be, "Pathologic Defections of the Corpus Luteum of the Ovary." Dr. Henthorne trained at The Mayo Clinic and is one of the leading pathologists of the state. He is active and interested in organized medicine. His paper no doubt will be an able one.

DR. EDGAR W. DAVIS

Dr. Edgar W. Davis, of Washington, D. C., whose subject at the state meeting will be "Lobectomy and Pneumonectomy in Non-Tuberculous Disease of the Lungs." Dr. Davis is a Fellow of American College of Surgeons, Professor of Clinical Surgery, Georgetown University, Thoracic Surgeon, Gallinger Municipal Hospital, Washington, D. C., Consultant and Chief of Department of Thoracic Surgery, Veterans' Hospital, Washington, D. C., Consulting Thoracic Surgeon, Montgomery County Hospital, Sandy Springs, Maryland, and Hopemont Sanitorium for Tuberculosis, Hopemont, West Virginia. He is a member of the American Association for Thoracic Surgery, Washington Academy of Surgery, Hippocrates-Galen, Medical Arts Society and the District of Columbia Medical Society, and a Fellow of the Southeastern Surgical Congress and the American Medical Association.

DR. HUGH GAMBLE

Dr. Hugh Gamble, of Greenville, whose subject on the surgical section will be "Breast Cancer, Its Treatment and the Cautery Technique of Operation." Dr. Hugh is a native of Northeast Mississippi and for a number of years has been one of the most prominent leaders in organized medicine in our state and in the South. Besides many memberships, he is a fellow in the American College of Surgeons.

DR. V. B. PHILPOT

Dr. V. B. Philpot, of Houston, who will address the surgical section on "Caesarean Section." Dr. Philpot is a native of Mississippi. He is one man who found acres of diamonds in his home community, returned to his home section after studying medicine and has done exceedingly well with the job. He is held in high esteem by his people and by his fellow doctors. Dr. Philpot is a past-president of the Mid-South Postgraduate Medical Assembly and the Mississippi State Hospital Association, a member of the Southeastern Surgical Congress and the American College of Surgeons. His hospital is one of the best equipped small hospitals in the state. He has always been very active in hospital and medical circles.

MEETING OF AMERICAN COLLEGE OF CHEST PHYSICIANS

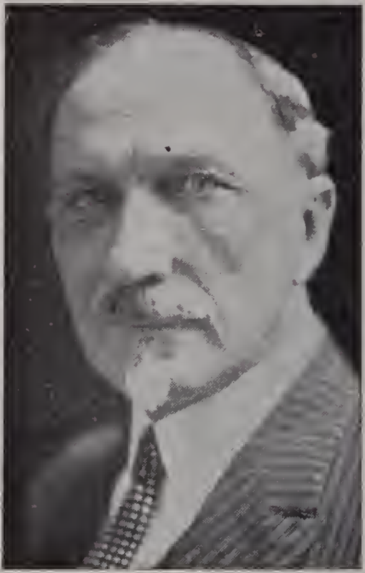
The Sixth Annual Meeting of American College of Chest Physicians will convene in New York City June 8-10, with the Biltmore Hotel as headquarters. Dr. Ralph C. Matson, of Portland, Oregon, is president of the association.

News and Comments

DR. JOE E. GREEN

The late Dr. Joe Green, of Laurel, who one year ago was our active, wise, progressive and beloved president. His warm heart and friendly hand will be greatly missed at our meeting this year. His body vibrated with life and his heart throbs abounded in love—love for the state medical association, for the medical profession, for his fellow doctor and for his fellow man. If it be in accordance with the Divine plan he will broadcast a message of good will and good cheer from beyond the clouds to every doctor at the meeting whose heart is in harmony with that invisible and silent station that speaks in ethereal waves of love. We feel the loss of this friend so true with a heart so grateful, and we are thankful for the memories of a personality so inspiring.

DR. JOHN DARRINGTON



Dr. John Darrington, the beloved, of Yazoo City. He is Mississippi's greatest medical orator. He is a surgeon of fine ability. As a doctor Dr. Darrington has rendered much service to his people. He loves them and they are devoted to him. He refuses to get bothered about the oil wells in his county, just goes right along with his fox hunting. He is very fond of his dogs and they of him—when a dog trusts a man you can depend upon him, for he has the right type of heart on the inside. Dr. Darrington has served on the State Board of Health, as president of the Mississippi State Medical Association and the Mid-South. He will deliver the welcome address for the Central Medical Society at the coming meeting.

MISSISSIPPI STATE PEDIATRIC SOCIETY

— Monday, May 13, 3 P.M. —

1. Recent Advances in and the Importance of Hematology in Infants and Children.—L. W. Diggs.

2. Intracranial Injury in the Newborn.—Maxwell E. Lapham.

3. Diagnosis and Treatment of Syphilis in Infants and Children.—Joseph Yampolski.

4. The Premature Baby.—Alfred A. Walker.

Banquet 6:30 P.M.

1. Painless Labor Versus Asphyxia in the Newborn.—Maxwell E. Lapham.

2. Questions may be asked the essayists.

The following men attended a recent meeting of the American Academy of Pediatrics: (From left to right): Dr. John B. Howell, Canton, Miss.; Dr. H. L. McKinnon, Hattiesburg, Miss.; Dr. H. F. Garrison, Jackson, Miss., state chairman, who read a paper; Dr. W. H. Anderson, Booneville, Miss.; Dr. Felix J. Underwood, Jackson, Miss., executive secretary of State Board of Health, and Dr. Robert A. Strong, Pass Christian, Miss., professor of Pediatrics of Tulane University. This picture was taken in front of the Edgewater Gulf Hotel.

AMERICAN COLLEGE OF SURGEONS

An invitation to attend the Annual Clinical Session of the Mississippi Chapter, The American College of Surgeons at Jackson, Miss., Robert E. Lee Hotel, May 13, 1940, 2:00 P.M.—

The medical profession is cordially invited to attend the first Annual Clinical Session of this body.

OFFICERS

President, W. W. Crawford, Hattiesburg; Vice-President, Geo. E. Adkins, Jackson; Secretary and Treasurer, Lawrence Long, Jackson; Executive Committee: J. G. Gardner, Columbia, Miss., A. Street, Vicksburg, Miss., J. P. Wall, Jackson, Miss., and Officers of the Chapter Ex-officio.

PROGRAM

Convention Hall of the Robert E. Lee Hotel. 2:00 P.M., May 13, 1940, Jackson, Miss.

1. The Aims, Ideals and Development of the Mississippi Chapter of the American College of Surgeons.—W. W. Crawford, Hattiesburg, Miss.
2. The Treatment of Fracture in the Small Hospital.—John C. Culley, Oxford, Miss.
3. Appendicitis.—J. W. Barksdale, Jackson, Miss.
4. Recent Therapy in Acute Otitis Media and Mastoiditis.—B. S. Guyton, Oxford, Miss.
5. Duodenal Ulcer; Some Indications for Surgical Treatment.—A. Street, Vicksburg, Miss.
6. Improvements in Technique of Supravaginal Hysterectomy (Film in color).—Hugh A. Gamble, Greenville, Miss.
7. Business session.
8. Fellowship hour.
9. Banquet—Convention Hall, R. E. Lee Hotel, 6:30 P.M., J. P. Wall, Toastmaster.
10. Diagnosis and Treatment of Ruptured Intervertebral Disc.—Dean Echols, New Orleans, La.
11. Thrombophlebitis.—Alton Achsner, New Orleans, La.

DR. W. W. CRAWFORD

Dr. W. W. Crawford, of Hattiesburg, president of the Mississippi Chapter of the American College of Surgeons. Dr. Crawford is the "surgical dean of Mississippi." His leadership in medicine has ever been sound and his judgment good. He is a past-president of the Mississippi State Medical Association and of the Southern Medical Association. His accumulated wisdom gives steady growth to his usefulness.

QUARTERLY MEETING OF THE NORTH MISSISSIPPI MEDICAL SOCIETY

— Wednesday, April 17, 1940 —

2:00 P.M. — Graduate School Auditorium

University, Mississippi

PROGRAM:

1. Reading of Minutes and Other Business.
2. "Agenda of the Mississippi State Medical Association"—Dr. J. P. Wall, Jackson, Miss.
3. "Doctors' Relation to Each Other and to the Public"—Dr. W. H. Anderson, Booneville, Miss.
4. "Conservative and Radical Treatment of Retrodisplacements of the Uterus"—Dr. C. L. Speck, New Albany, Miss.
5. "Diagnosis Aspects of Peptic Ulcer"—Dr. R. L. Sanders, Memphis, Tenn.

D. C. French,
President,
Water Valley, Miss.

A. H. Little,
Secretary,
Oxford, Miss.

DR. HARVEY F. GARRISON, SR.

Dr. Harvey F. Garrison, Sr., of Jackson, state chairman of American Academy of Pediatrics Region II. Dr. Garrison has been an outstanding leader in the advancement of pediatrics in the state of Mississippi. He will be a prominent figure in the program in the Mississippi State Pediatric Society which meets on Monday, May 13. Dr. Garrison is past-president of the Mississippi State Medical Association and has served as councilor for the Southern Medical Association. He is one of our ablest leaders in organized medicine.

DR. GEORGE TUBB PASSES

At 12:45 A.M. Friday, the 11th of April, Dr. George Thomas Tubb, of Aberdeen, gave up his life after a long hard fight. Dr. Tubb was 71 years old. He was born and reared in Monroe County, near Quincy, about fifteen miles north of Aberdeen. He spent his entire life as a resident of this county. He graduated in medicine from the old medical school in Memphis, in 1899. He was president of his class at graduation. A few months after graduating, he located and began practice at Athens, which town was the county seat in the early days of Mississippi. He lived and worked there for about thirty years and then moved to Aberdeen where he died. Dr. Tubb's family was, in the fullest sense, a pioneer family in the state and county. The members of this family are almost innumerable and are so intermarried with other families that he was related to a large proportion of the people living in the county. Dr. Tubb was one of the best men this writer has ever known. He was kind and generous in disposition—honest and fair in his dealings with his fellowmen—he was devoted to his friends and family. He had as many friends as any man living in his county and if he had enemies the fact is unknown. Dr. Tubb was one of the fast disappearing men who can qualify as a real "family physician." His clientele was very extensive—his practice was large and successful. He did not carry all of his equipment in a "black bag"—much of it was in his head and heart. He loved his people and they loved him. He spent his life in their service and they trusted him. While he, possibly, did not know as much about diseases as some of the modern men of medicine, he knew much more than they of sick men, women and children. He was very wise in that he treated sick folk rather than diseases. I am sure that the look of sympathy and personal interest together with the tender touch of his hand and his words of hope and encouragement were worth more to his sick than instruments of precision and high sounding phrases could possibly have been. Soon after entering the practice of medicine he was united in marriage with Miss Sudie Smith who is a member of another highly respected family. They had no children of their own but they reared a nephew of Dr. Tubb's as their child. Dr. Tubb was fairly successful as a business man while he did a very large free practice for those who were unable to pay for his service.

His place will be very hard to fill. His interest was keen in all civic and religious undertakings and he was specially devoted to the affairs of the church of which he was long a member. He was my personal friend and as such I shall miss him sorely. His life work was well done and he, now, rests from his labors. May we who linger emulate his life and example.

—G. S. Bryan.

COMING MEDICAL MEETINGS

Mississippi State Medical meeting at Jackson, Miss., at Robert E. Lee Hotel, May 14, 15, and 16.

The American Medical Association meets in New York City, June 10 to 14.

National Tuberculosis Association, Cleveland, Ohio, June 3 to 6.

West Tennessee Medical and Surgical Association, Jackson, Tenn., May, 1940.

American Association for the Study of Goiter, Rochester, Minn., April 15, 16 and 17.

Arkansas Medical Society meets at Ft. Smith, April 15 to 17.

Alabama State Medical Association, Birmingham, Ala., April 16, 17, 18.

American Public Health Association, Detroit, October 8 to 11.

Southern Medical Association, Louisville, Ky., November 12 to 15.

Southern Railway Surgeons, Charleston, S. C., June, 1940.

A CRITICISM

Dr. G. S. Bryan

A very unique and interesting book was recently issued from the Cornwall Press. It was written and copyrighted by Hugh Cabot, a member of The Mayo Clinic group. The title of this book is "The Patient's Dilemma." To appreciate any book it is helpful to know something of its author and his environment. Dr. Cabot is an able and brilliant man. He was born and reared in the East and is a graduate from Harvard Medical College—for a good many years on the surgical staff of Massachusetts General Hospital and assistant professor of surgery in the University of Michigan School of Medicine. Later he became consulting surgeon at Mayo Clinic. With this background, his sympathies and attitudes are easily discovered and understood. Throughout the book, the theme is "good medical care" and the "quest for medical security in America." These are very vital questions—vital to both the public and the physician. But with the environment of birth and training that have been virtually forced upon the author, one is made to wonder if he could be expected to grasp and understand the intricacies of the questions that he has undertaken to discuss. In the suggested scheme for supplying "good medical care" it is made clear that this cannot be obtained except from a group of specialists—that no general practitioner or "family physician" is capable of either diagnosing or treating any kind of sickness. The inevitable conclusion is that the author does not believe that the world has ever had "good medical care" until very recently—that the relation that has existed between physician and patient has always been that of a **faker and faked.** Of course, this is not flatly stated but the inference is inescapable. And since good medical care can only be obtained from the combined skill and superior knowledge of a "group of experts," it follows that such care must, of necessity, be expensive and cannot be delivered outside of some "standard" hospital. He argues that every individual is entitled to and should receive "good medical care," and since this cannot be found outside of hospitals, he concedes that the expense should be met from tax monies. He condemns the "fee for service" charge plan and argues that all doctors should be paid a salary for full or part time service. However, he does not tell us how nor by whom these doctors shall be selected, nor does he tell us who shall fix the salary at which each doctor shall work, nor under whose direction and supervision they shall work. Nor does he tell us how these services shall be standardized, except that he would have a central licensing board instead of allowing each state to control the licensure of those who practice within the state. He seems to realize that should his plan be adopted a great many hospitals will be required and at the same time he condemns the many hospitals that now exist as being a disgrace to the community in which they are located because of the inadequate equipment and the low qualification of the directors of same. It seems to be his idea that only large cities should be considered as fitting locations for these high grade hospitals. He does not seem to realize (or care) that millions of human beings live in rural sections far removed from large cities and that these cannot be snatched from their homes and carted off to hospitals and turned over to "experts and specialists"—turned into human guinea pigs for experts to experiment with and on. He ridicules the idea that 85% of all sickness can be adequately cared for by the family doctor that carries his equipment in a "black bag." In fact he says the family doctor, to be able to treat patients properly at home, would require a fifty-ton truck to transport his equipment. In fact he does away with the general physician with a single shrug of the shoulder and a flourish of the pen. He, himself, is a specialist (and I have been told that he has never practiced medicine a day in his life), hence he is not to blame when he thinks that no other man is qualified to work alone. I once heard W. J. Mayo—the man who organized and directed the group of which he is, now, a member, say that it took eight specialists to make one doctor and that one qualified general physician was the equal of eight specialists. The author of this book seems to be a highly educated man, from an academical viewpoint, but does not seem to have profited from contact of ideas held by others. In fact, while claiming membership in organized medicine, he is a severe critic of same. It will be remembered that he is one of the group of (so-called) rebels against the American Medical Association. I once heard that there was a saying, even in the East, that "a Lodge recognizes none but a Cabot and a Cabot recognizes none but God as his equal." If this be true our author is to be pitied rather than condemned for many of his unique and arrogant conclusions. While there is much more in this book that is not to the credit of the author nor to the credit of organized medicine, there is much that should be given careful thought and possibly should be accepted as rational in our approach to the crisis that confronts both the patient and the physician at the present moment. If there were no other source from which these good ideas and suggestions could come, I should gladly enumerate and endorse them. But it seems to me that this well written book blows both hot and cold—there is such a jumbling of truth and error and withal so much evidence of a haughty spirit and arrogant mind that I fear the book itself will be of no real service to either public or physician.

DEATH OF MRS. C. D. MITCHELL

The medical fraternity in Mississippi deeply regrets the death of Mrs. C. D. Mitchell, of Jackson, the wife of our beloved physician and superintendent of the Mississippi State Hospital at Whitfield. Dr. C. D. Mitchell has been an outstanding medical leader in Mississippi for many years and is a past-president of the association.

New Addition Rush Infirmary; 25th Anniversary

On April 8, Rush's Infirmary of Meridian celebrated its twenty-fifth anniversary with a reception at which several hundred visitors were received and carried on a tour of inspection of the hospital.

The hospital was founded in 1915 by the late Dr. J. H. Rush. It has been twice enlarged; once in 1920 when its capacity was doubled to provide for fifty patients. During the past year a new clinic section has been added, also a new patients' pavillion, bringing the total bed capacity to seventy-three.

One enters the out-patient clinic through the reception room, finding himself in the center of a group of nineteen rooms devoted to diagnosis and the treatment of patients not confined to bed. Six of these rooms are equipped for examination of patients and are arranged in positions convenient to the doctors' consulting rooms.

The consulting rooms are well appointed, having paneled walls of figured gum.

The consulting room of Dr. Lowry Rush is complete with mahogany furniture, neutral gray carpet with leather chairs of green and brown, draperies and finishings of gold.

The consulting of Dr. Leslie Rush is also decorated with mahogany furniture with light tan leather upholstery on the chairs, blue carpet, blue draperies and finishings of gold.

The accident surgery room is large and spacious to provide for the many pieces of equipment that are necessary in the handling of accident cases. In this room, in addition to the standard fracture table, and splints, there is to be seen the new Albee-Comper Orthopedic operating table. With it it is possible to place the body in thirty different postures for operation, the reduction of fractures, and the application of casts. The Albee bone mill and the portable x-ray machine are also part of the equipment of this operating room.

Additional operating rooms are maintained for general surgery; eye, ears, nose and throat; urological surgery; and obstetrical service.

The obstetrical department is separated from the rest of the hospital by double doors for isolation.

The nursery has been redecorated and is completely equipped with bassinets, incubator,

Clinic reception room.

A consultation room.

A consultation room.

One of six examination rooms.

and infant resuscitator.

A separate operating room is maintained for obstetrics and is equipped with a DeLee Obstetrical Bed of the latest design.

The department of x-ray diagnosis is convenient to the accident surgery and is equipped with new Westinghouse shock-proof equipment for x-ray pictures and fluroscopic examinations.

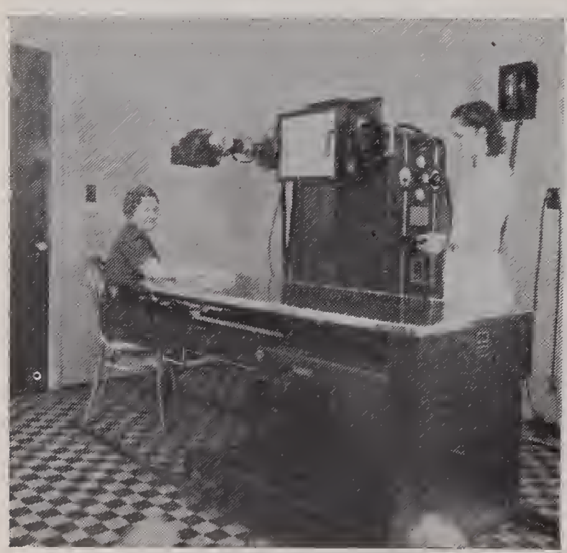
The department of laboratory diagnosis is equipped for all types of clinical diagnosis including bacteriological, serological, and chemistry.

One large room is devoted to the library with books, magazines, library table, and lockers. It is used for doctors' consultations.

There are separate departments for the office of the record librarian and for physical therapeutics.

Department laboratory diagnosis.

Physiotherapy.

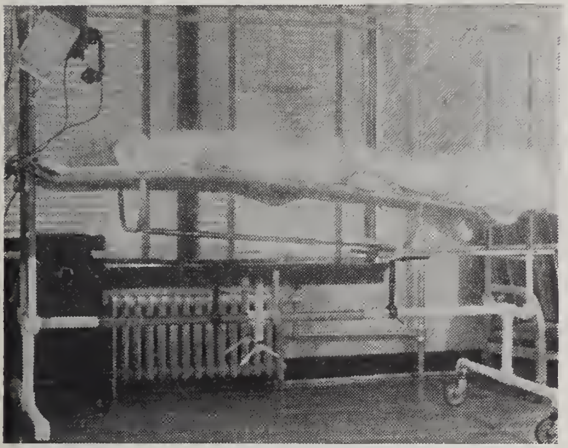


Department x-ray diagnosis.

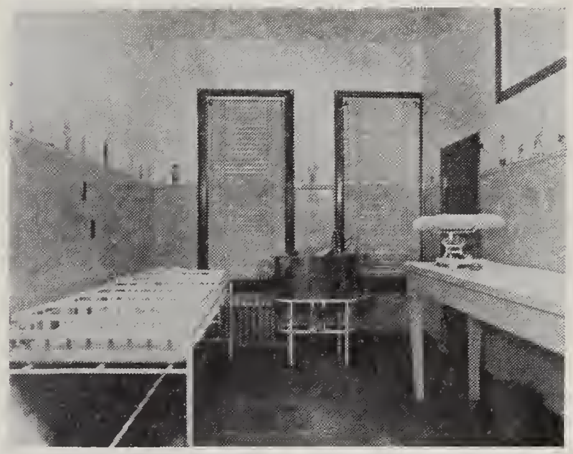
Photography department.

Orthopedic operating table.

General operating room.



In fracture department.



Nursery.

Minor surgery.

Patient's room.

Library.

The department of photography is equipped with an Eastman clinical camera, Graflex camera, apparatus for enlargement, the making of lantern slides, motion picture photography and projection.

On entering the new south addition, one sees a complete fire-proof building with a fire escape on the south side of the new addition. The new addition is composed of twenty-four rooms, eighteen of which are rooms for patients, three linen rooms, and three nurses' utility rooms. The corridors are constructed of terrazo and floors in the patients' rooms are of hardwood.

Each patient's room is furnished with a new model crank-up bed and innerspring mattress, a bedside table, two chairs, an over-bed table and private bath. The building has a new electric elevator with interlocking doors and safety gate.

An inter-communication system of thirteen telephones and a public address system facilitates the work of the personnel.

The hospital is fully approved by the American College of Surgeons and the American Hospital Association.

DR. JOHN W. MONETTE

W. A. Evans, M.D.
Aberdeen, Miss.

(At four in the afternoon of May 15, as one of the functions of the forthcoming Mississippi Medical Association, portrait of Dr. John W. Monette is to be presented to the State Department of Archives and History to be hung in the Mississippi Hall of Fame. This portrait has been painted under the direction of a group of Mississippi physicians who will present it in the name of the Mississippi State Medical Association.

The address of presentation will be made by a grandson of Dr. Monette, who is also a grandson of former-Governon Brandon. The speech of acceptance will be made by Dr. W. D. McCain, director of the Department of Archives and History.)

When Dr. Monette was practicing medicine in Natchez and nearby Washington, then the commonly accepted opinion was that yellow fever was caused by the putrefaction of organic matter. Dr. Benjamin Rush, of Philadelphia, had been the principal proponent of this theory. He had had experience with yellow fever in a very severe epidemic of this disease which had prevailed in his city. He had proved to his own satisfaction that the epidemic in Philadelphia had been caused by the decay of some hides. He was very positive that the disease originated locally, that it was not an imported disease and that quarantine procedures were not justified.

This opinion of Dr. Rush's was the basis of measures for protection against yellow fever. Municipal cleanliness was advocated and at times enforced, but quarantine had no supporters. Dr. Monette observed that yellow fever was brought into Natchez, and had not originated there. By careful, well-checked observations, he proved that the disease spread from Natchez to the surrounding towns in Louisiana and Mississippi in proportion to the commerce and travel between those towns and Natchez. If no goods were shipped into a town and no travel went there, the town escaped infection. If the travel and trade were heavy, the infection spread there promptly.

Having established the fact that yellow contagion was carried into a town, Dr. Monette then proceeded to prove that it could not generate there from putrefaction of organic matter. The next step in his conclusions was somewhat more didactic. He argued that the way to protect a community was to regulate travel and outside trade. He extended this argument to include the mouth of the Mississippi as the portal through which yellow fever entered the United States from abroad, and the river itself as the channel of spread, once it had secured a foothold in the United States.

The first efforts to make application of the Monette principle took the form of a non-intercourse quarantine to be operated from the beginning to the end of the yellow fever season. This type of quarantine met with indifferent success. In 1880 this non-intercourse type of quarantine was changed to a regulated intercourse quarantine. This proved successful. Yellow fever has been a negligible disease in the United States since 1880.

Monette's principles were directly contradictory to those of Benjamin Rush. In that day Rush's opinions established practices, and Monette's work caused the Rush methods to be abandoned. Methods based on his principle have proved about all that was needed to protect continental United States from epidemics of yellow fever when we undertook to free Cuba, Panama and the other Caribbean countries from the disease, was to supplement the work of Monette by that of Gorgas, Reed, Carroll, Lazear and Agramonte.

When the next step in the aggression was taken, the control of the disease in Africa and Brazil, we needed the work of the various commissioners' laboratories and boards that have operated in those countries.

This Monette portrait is the first portrait of a physician to be hung in the Mississippi Hall of Fame. Other physicians should be accorded this honor, but no other man whose portrait hangs there more richly deserves the honor than does Dr. John W. Monette.

BOOK REVIEWS

Ten Years in the Congo, by Dr. W. E. Davis, is something different and refreshing. Dr. Davis spent ten years in the Belgian Congo as a medical missionary. In his book he not only gives a splendid account of his medical practice in that country, but at the same time gives information on the geography, the climate, the traits and characteristics of the people and how they respond to education and religion. Dr. Davis certainly did his practice under difficulties, but he did it well against odds. A very sensible plan he followed was to take stock of what he had to do, what he had to do with, and to learn something of his clientele in all their relations in life. His experience is quite a contrast to our poorest conditions in practice much less the super scientific expensive plan by number that is advocated by some as the only practice of any value. During his last year in the Congo, 65,000 patients came to his dispensary for treatment and he did 563 major operations. About one thousand dollars for fifty thousand patients was his allowance. Dr. Davis' resourcefulness in using what he had at hand to good advantage is inspirational and is of much practical value, or should be to the general practitioner. This most interesting book is published by Reynald & Hitchcock, Inc., 386 Fourth Ave., New York, and the price is $2.50. Dr. Davis is now practicing medicine in Bourbon County, Kentucky.

The Patient's Dilemma: The Quest for Medical Security in America. By Hugh Cabot, M.D. 284 pages. New York: Reynal & Hitchcock, 1940. Cloth $2.50.

This valuable contribution to the literature of socialized medicine is a favorite topic of discussion whenever doctors gather together. Any book is lucky so far as its lure for readers is concerned, if it can have some one tie a slogan to it. In this instance Dr. Hugh Cabot used the term, "the little black bag," and this slogan has well been the theme of discussion where doctors gather.

The book is excellently written. It expresses opinions clearly and uses words excellently. It is just as coldly logical as one expects of Hugh Cabot and expected of Richard.

Those Cabots had minds that were so coldly logical that when a reader knew the premises from which they started, and if he could think straight himself, he could figure in advance what conclusions would be arrived at.

If they started from wrong premises the quality of their minds forced them to arrive at wrong conclusions. A different quality of mind might start from wrong premises and arrive at a right conclusion, but not so the fine mental machine called Hugh Cabot.

There is where we think the fault of the book lies.

His faulty premise lay in the unattainable perfection of the practice of medicine. Unattainable perfection is not expected of religion, education, law, social science, business—in fact, of anything human. Cabot held that it was to be accomplished by medicine and all lesser means were to be rejected. He left out of consideration *vis medicatrix naturae* and scores of other factors that cannot be left out.

In consequence he has written a very fine but highly controversial book. Every doctor should read it first for his own enlightenment and profit. He should read it because it is good reading. And finally he should read it because it is being widely read by social service workers, economists and the general public.

ESSENTIALS OF THE DIAGNOSIS EXAMINATION, written by John B. Youmans, B.A., M.S., M.D., Associate Professor of Medicine and Director of Postgraduate Institution, Vanderbilt University Medical School, 384 pages, and 32 illustrations. Published by the Commonwealth Fund, 41 East 57th Street, New York, N. Y. Price $3.00.

This small book was written with the purpose of supplying the practicing physicians with the more common and accepted diagnostic methods and procedures needed in the general practice of medicine in a compact accessible form. Every effort has been made to select tests on the basis of their reliability, simplicity and accuracy taking into account both the cost and apparatus needed to perform such tests. This simplicity and directness of presentation should encourage one to use the tests frequently. The appendix lists material necessary for a laboratory and the composition of many of more common reagents used.

The book is divided into three parts. Part One presents an outline of history taking and provides an outline and plan of physician examination. Part Two deals with laboratory tests and examination of urine, feces, sputum, gastric analysis, body fluids, exudates, spinal fluid, blood and blood chemistry and skin tests. Part Three covers other miscellaneous tests.

This hand book should prove a valuable laboratory aid for daily use in any general practice.

The second edition of the DISEASES OF THE NOSE AND THROAT, by Charles J. Imperatori and Herman J. Burman, both having M.D., F.A.C.S. affixes. 726 pages, 480 illustrations. Second edition, cloth, $7.00. J. B. Lippincott Co., Philadelphia.

This book will be found of great value to both specialist and practitioner. Both authors have many and important connections in New York, including professorships at the New York Polyclinic Medical School and Hospital and Columbia University Medical School. The book follows closely the courses given matriculants at these schools, yet it is largely designed to help the practitioner know how to diagnose, how to treat and what course in handling conditions met with daily in the nose and throat field. Its arrangement makes it an easy reference book. Symptoms, diagnosis and treatment are taken up, with the pathology and cause placed at the end of each subject discussed.

The relationship of allergy to rhinology in general and to polyposis in particular is emphasized, and additional discussions of dermoid cysts, telangiectasia, injuries, the cytology of nasal secretions and fractures of the nasal sinuses are given importance. Also found in the second edition is more detailed attention to acute septic sore throat, tuberculosis of the larynx, and the laryngectomized patient.

This very practical book should be as valuable to the specialist as to the general practitioner.

A TEXTBOOK OF OBSTETRICS, by Charles B. Reed, M.D., F.A.C.S., and Bess I. Cooley, R.N. Published by C. V. Mosby Co., St. Louis. Price, $3.00,476 pages, 209 illustrations.

This book meets a happy balance between physician and nurse as no other book of this kind. Printed on the eye-conditioned paper employed to such advantage by Mosby, it is as concisely prepared as could be for the undertaking of the student or graduate nurse. A complete review of anatomy, physiology and embryology, with the etymology of scientific terms included for clearness, is augmented with drawings for every step in the text. Emphasis is placed on the vital part played by a nurse in prenatal, obstetrical and infant care. This book is primarily planned out for use in the nursing school, but it is simply enough written that even every practical nurse might find it extremely valuable. Physicians may expect a better understanding and co-operation if this book were placed in the hands of their office nurses.

DR. ROSS' MOTHER DIES

We offer our sincere sympathy to Dr. T. E. Ross, Jr., in the loss of his mother. Dr. Ross, Sr., was past-president of the Mississippi State Medical Association and one of our finest characters and Mrs. Ross was his devoted helpmate. She was one of the noblest of characters

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"Not until twenty-one years ago were there any definite plans looking to the specific training of physicians, engineers, or nurses in the science and technique of disease prevention. Through a grant from the Rockefeller Foundation, the Johns Hopkins School of Hygiene and Public Health was opened in October, 1918."—Copied.

Mississippi State Medical Association

Organized in 1867 **Next Meeting: May, 1940, Jackson**

OFFICERS

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President-Elect—W. H. Anderson, Booneville
Vice-Presidents—Hugh Johnston, Vicksburg
T. E. Ross, Hattiesburg
J. E. Ellis, West Point

Secretary—T. M. Dye, Clarksdale
Editor—Lawrence W. Long, Jackson
Historian—Leon S. Lippincott, Vicksburg
Speaker—J. Rice Williams, Houston
Treasurer—E. Leroy Wilkins, Clarksdale

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Second District—L. L. Minor, Rt. 4, Memphis, Tenn.
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Fifth District—Lawrence W. Long, Jackson
Sixth District—H. Lowrey Rush, Meridian
Seventh District—J. P. Culpepper, Hattiesburg
Eighth District—W. H. Frizell, Brookhaven
Ninth District—D. J. Williams, Gulfport

COMMITTEES

Program:
Surgery—Edwin Benoist, Natchez
Hygiene and Public Health—E. W. Noblin, Sr., Jackson
Medicine—Ira Seale, Holly Springs
E. E. N. and T.—E Staton, Columbus

Anti-Barbiturate:
J. M. Acker, Aberdeen
J Gould Gardner, Columbia
L. S. Lippincott, Vicksburg
B J. Marshall, Whitfield
E. LeRoy Wilkins, Clarksdale

Public Policy and Legislation:
Felix J. Underwood, Jackson
Henry Boswell, Sanatorium
W. H. Anderson, Booneville

Charity Hospitals:
J. C. Culley, Oxford
W. W. Crawford, Hattiesburg
John Darrington, Yazoo City
B. B. Martin, Vicksburg
H. R. Shands, Jackson

COMPONENT SOCIETIES

County Society	President	Secretary-Editor	Time of Meeting
Adams	James C. Rice, Natchez	Fred Geisenberger, Natchez	Third Tuesday 7:30 p. m.
Alcorn	G. W. Googe, Rienzi	Bernard Patrick, Corinth	Third Thursday 7 p. m.
Amite	W. T. Thornhill, Crosby	D. H. Thornhill, Crosby	Second Thursday 7:30 p. m.
Central Medical	W. H. Watson, Jackson	H. C. Ricks, Jackson	First Tuesday 7:30 p. m. Omit and August.
Claiborne		G W. Acker, Port Gibson	
Clarksdale and Six	W. H. Williams, Tunica	L. B. Austin, Rosedale	1st Wed. March and Sec. Wed.
Clarke-Wayne	W. P. Gray, Waynesboro	Albert Hand, Shubuta	
Coahoma	L. H. Brevard, Clarksdale	Julius L. Levy, Clarksdale	
Coast Counties	B. B. O'Mara, Biloxi	D. L. Hollis, Biloxi	
Delta Medical	G. Y. Gillespie, Greenwood	F. M. Acree, Greenville	Sec. Wed. April and Oct., 2 p.
DeSoto	Henry M. Wadsworth, Hernando	L. L. Minor, Memphis, Rt. 4	
East Mississippi	C. H. Harrison, Philadelphia	Guy T. Vise, Meridian	
Franklin	C. A. Everett, Bude	L. Costley, Meadville	
Issa-Shar-Warren	Walter E. Johnston, Vicksburg	Alston Callahan, Vicksburg	
Jefferson	C. R. Senter, Byhalia	Herbert Phillips, Holly Springs	Second Thursday.
Marshall		W. T. Harper, Fayette	
Newton	W. L. Henton, Decatur	Dudley Stennis, Newton	
North Mississippi	C M. Speck, New Albany	A. H. Little, Oxford	Third Wed., Jan., April, July,
Northeast Miss.	J. W. Lipscomb, Columbus	A J. Stacy, Tupelo	Sec. Tue., Mch., June, Sep., Dec
Pike	E. M. Givens, McComb	T. Paul Haney, Jr., McComb	First Thursday
Pontotoc	J. H. Windham, Ecru	E. B. Burns, Pontotoc	
South Mississippi		Van C. Temple, Hattiesburg	
Sunflower		H. B. Cottrell, Indianola	
Tallahatchie	G. Lacy Biles, Sumner	J. E. Powell, Charleston	
Tate	W. D. Smith, Senatobia	J. S. Eason, Coldwater	Second Wednesday
Cop.-Law.-Lin.-Wal.	J. J. Pittman, Tylertown	R. B. Zeller, Hazlehurst	Sec. Tue., March, April, June,
Webster	E. T. Arnold, Bellefontaine	H K. Curry, Eupora	
Wilkinson	C. E. Catchings, Woodville	E. M. Butler, Centerville	
Winona District		S B. Caruthers, Grenada	

Interpreting Medical Literature

STAFF OF REVIEW

Dermatology—James G. Thompson, Jackson.

Eye—S. S. McNair, Jackson.

Ear, Nose and Throat — Alston Callahan, Vicksburg.

Obstetrics and Gynecology—J. W. Lucas, Greenwood.

Orthopedics—Thomas H. Blake, Jackson.

Pathology and Clinical Pathology—John C. Henthorne, Jackson.

Pediatrics—Harvey F. Garrison, Jackson.

Public Health—Felix J. Underwood, Jackson.

Radiology and Roentgenology—Karl O. Stingily, Meridian.

Surgery—W. H. Parsons, Vicksburg.

Urology—Temple Ainsworth, Jackson.

Discussion and comments are invited.

DERMATOLOGY

PRURITIS ANI AND ITS RELATIONSHIP TO SEBORRHEIC AND DERMATOPHYTOSIS, Paul D. Foster, M.D., and Malcolm R. Hill, M.D., Archives of Dermatology and Syphilology, V. 141, No. 4, P. 699.—

Pruritis ani is a disease that is most embarrassing to the patient due to its location and to the persistent itching that is forever gnawing at the patient, so to speak, and the overpowering urge to scratch even if it disgraces one socially. Heretofore, where no cause could be found for the continued itching it was called essential. This point brings us to the article that we are going to discuss. In this article an attempt is made to give a concrete cause for the pruritis and to make a logical explanation for its presence; i.e., exacerbations of seborrheic eczema of the scalp, ear canals, eyelids, umbilicus, or axillas or of dermatophytosis of the feet. The authors realize that to prove that there is an "allergic" connection between the aforementioned conditions and pruritis ani is difficult. They review 145 cases of pruritis ani treated by them in an effort to demonstrate this point.

In reviewing the literature it appears that the writers acredit the itching to whatever happens to be their particular "hobby."

The crux of this explanation of the cause of pruritis ani rests upon the Bloch, Sulzberger, (separate articles) explanation of dermatophytosis and dermatophytid. They stated that the physiological mechanics of the -"ids" is explained on the basis that fungi or bacteria located in focus or foci of infection can enter the blood stream and be distributed to the skin, where they are rapidly killed, and altered condition of the skin or "allergy" being caused, so that on future contact of the skin with the organisms or their products varying types of reactions are produced, from simple pruritis to eczema.

The cause of seborrheic eczema is thought to be due to Pityrosporum ovale, plus some peculiar susceptibility in certain individuals.

The following therapy was found most effective:

1. Fungicidal ointment to scalp, feet, or both and to anal region at night.
2. Vitamin B complex, 200 Sherman units twice each day.
3. Low carbohydrate and low fat diet.
4. X-ray therapy.
5. Medicated dusting powder, after oozing stops.

—J. G. T.

OPHTHALMOLOGY

THE MYOPIA PROBLEM, Avery DeH. Prangen, M.D., Archives of Ophthalmology, Vol. 22, p. 1083, December, 1939.—

In view of the fact that myopia is on the increase among civilized people, I think this excellent article to be most timely. The author discusses the different theories concerning the etiology and results of treatment as propounded by many different writers. His conclusions are quite adequate and they are as follows:

"1. The mechanical theory (elongated globe) of myopia is untenable. Current opinion has shifted to a biologic point of view regarding the frequency distribution of myopia in refractive states.

"2. In the majority of instances myopia is not abnormal but rather a variant of the type of refraction of the eye.

"3. Myopia is a biologic tendency to reduce the hyperopic reserve usually seen in childhood.

"4. This tendency is seen in association with hyperopia and myopia but is troublesome only in cases of myopia.

"5. This process may become arrested at any stage or continue unchecked.

"6. Myopia is the result, not the cause, of this process.

"7. An adequate hyperopic reserve in young persons seems essential as a protection against the development of myopia.

"8. Children who have low hyperopia should be watched. They may not be as normal as they commonly are considered to be.

"9. A hereditary tendency, together with age, race, and sex, is the chief etiologic factor. The importance of all other factors is debatable, but those contributing to excessive convergence must be considered seriously.

"10. Constant wearing of fully correcting lenses is of paramount importance.

"11. Periodic examinations to keep the correcting lenses apace with any change in the myopia are a necessity.

"12. General hygienic and dietetic measures are indicated.

"13. Restriction of unnecessary near work by children seems sensible.

"14. Instillation of epinephrine is of doubtful value but is worth trying. This may also be true of calcium, parathyroid extract, vitamin D and thyroid extract.

"15. Progressive myopia of the malignant type is rare. It is an independent biologic group. Its management and treatment are individual problems."

COMMENT

I heartily agree with the author that myopia is inherited, and, that the greatest factor in controlling a case of myopia is to have the patient wear a full myopic correction at all times.

—S. S. M.

PATHOLOGY

SIMMOND'S DISEASE (PITUITARY CACHEXIA), M. M. Conava, Arch. Path., 29:310-313 (Mar.) 1940.—

At necropsy a very tiny pituitary was found in a man 72 years of age. During the last 28 years of the man's life he had been confined to mental disease hospitals for dementia praecox and died six weeks after fracture of the femur. Anatomic changes referable to the pituitary hypofunction were extreme emaciation and loss of pubic and axillary hair. Other changes also possibly related to pituitary hypofunction were marked decrease in the size of the stomach, and atrophy of the testicles. The pituitary was described as resembling an edematous string.

Microscopically there was collapse of the blood sinusoids of the pituitary gland, and an absence of basophilic cells. The eosinophilic cells were vacuolated.

This case is evidently a classical one of Simmonds' disease although the clinical record is incomplete. Clinically patients with this disease suffer from premature aging, loss of weight, strength, libido, teeth, pubic and axillary hair, atrophy of the genitalia and of the jaw. Hypotension, hypothermia, eosinophilia, and anemia are also found.

PRIMARY AMYLOID DISEASE OF THE MYOCARDIUM AND BLOOD VESSELS, Benford, C. H., Arch. Path., 29:314-320 (March) 1940.—

Eleven cases of amyloid disease involving the myocardium have been reported. Primary systemic amyloid disease is rare and since there was no other associated chronic disease presented in the case encountered by the author, the condition in this case must be considered as primary amyloidosis (rather than secondary to chronic suppuration, etc.)

A white man, aged 56, was first seen at the hospital 8-2-38. For 8 months he had suffered from dyspnea on exertion. For one month there was cough, orthopnea and swelling of the ankles. On examination the heart proved to be enlarged, the peripheral vessels were thickened and tortuous and the blood pressure was 92/78. Under treatment the patient became temporarily more comfortable but later developed progressive signs of cardiac failure.

At necropsy amyloid substance was found replacing a few muscle fibres of the myocardium and in the smaller blood vessels of the heart, liver, kidneys and other internal organs. Myocardial failure appeared to have been due to obliterative stenosis of the smaller blood vessels by amyloid deposits in their walls.

INSULIN HYPOGLYCEMIA AND GLYCOGENIC HEPATOMEGALY IN DIABETES MELLITUS, N. B. Friedman, N. B., Arch. Path., 29:415-419 (March) 1940.—

The finding of large, glycogen-laden livers at necropsy has been observed before, and some writers believe that even when diabetes is present such cases should be classified as von Gierke's disease (glycogen storage disease).

The first case, a 3½-year-old boy was admitted to the hospital in diabetic coma, with a blood sugar of 500. He received large doses of insulin but never recovered from coma. Six hours before death the blood sugar dropped to 17. Dextrose was given intravenously to combat this hypoglycemia. At necropsy, the liver was enlarged 50% and the cells were heavily laden with glycogen.

The second case was that of a 22-year-old man who had taken 40-60 units of insulin daily to control diabetes mellitus. During acute infections, larger doses were required. At the time of admission the patient was suffering from right pyonephrosis and after nephrectomy he developed septicemia, and bilateral otitis media. Owing to the difficulties encountered in controlling the diatetes, hypoglycemia apparently resulted and death ensued. At autopsy the liver was almost twice its normal weight and the hepatic cells were laden with glycogen.

Comment: (It is generally accepted that both normally and in diabetics, insulin converts the blood sugar into glycogen which is a complex starch-like substance. Glycogen is stored in the muscles and in the liver. In the diabetic cases reported, there was evidently a large amount of blood sugar available and large doses of insulin were necessary. Naturally large amounts of glycogen would be stored in the liver. It is doubtful that glycogen storage caused the death of these patients. It is probable that changes in the brain cause death in cases of hypoglycemia.

PEDIATRICS

Malignant Tumors in Children, Ellis Kellert, New York State Journal of Medicine, 39: 2259, December 15, 1939.—

A good paper in which the most interesting points to the reviewer are the following: The author reports observing over an eleven-year period, 1928-1938, 15 malignant tumors in children up to fifteen years of age out of 2,050 malignant tumors of all kinds, are dead now. Cases are reported of fibrosacroma of the foot, of suprarenal tumors, of retroperitoneal myxosarcoma, of gliomas, bone sarcomas, kidney tumors, one carcinoma of the uterus. Two cases only, bone neoplasms showed a history of trauma. The author's summary follows: "These few cases from an active pathologic service illustrate the infrequency of tumors in children and their varied points of origin. It appears that no age is exempt from attack by any malignant neoplasm and that slight but persistent symptoms in children must be carefully investigated with the possibility of tumor kept in mind. Since surgery carries a high immediate mortality, all other means of diagnosis should first be exhausted, such as frequent physical examinations, laboratory tests, x-ray studies and biopsy. Chronic non-traumatic pain, persistent unexplained swellings and discolorations in the skin, particularly, are worthy of constant observation until tumor is definitely excluded. Biopsy is the most important method to employ whenever the tumor is accessible. As soon as the diagnosis is established, treatment must follow promptly because of the high degree of malignancy of these childhood tumors. All such neoplasms should receive the benefit of radiation therapy, regardless of the histologic character of the tumor.

Comment

I have just seen several cases of tumors in infants and children, which are probably the reason that prompted me to give this abstract. I think it quite important that we pay more attention to diagnosis and immediate treatment in these cases.

Observations Upon the Experimental and Clinical Use of Sulfapyridine. The Treatment of Pneumonia with Sulfapyridine, Perrin H. Long and W. Barry Wood, Jr., Annals of Internal Medicine, 13:487, September, 1939.

1. During the past year, 1938-39, the case fatality rate in 139 adults ill with pneumococcal pneumonia in the Johns Hopkins Hospital was 7.2 per cent. We attribute this low death rate to the use of anti-pneumococcal serum, sulfapyridine, and serum and sulfapyridine in the treatment of pneumonia. 2. Sulfapyridine has proved to be a valuable chemotherapeutic agent in the treatment of pneumonia. 3. The drug is irregularly absorbed from the gastrointestinal tract in human beings. 4. A relatively large fraction of the sulfapyridine which is absorbed may be conjugated to acetyl-sulfapyridine. 5. The soluble sodium salt of sulfapyridine which may be given by the intravenous route is a valuable adjunct in the treatment of severe pneumococcal infections. 6. The therapeutic use of the drug in patients ill with pneumonia must be continued until convalescence is established, if relapses are to be avoided. 7. In certain individuals, the admin-

istration of sulfapyridine produces toxic manifestations similar to those previously described as occurring in the course of therapy with sulfanilamide. 8. Renal calculi, composed of acetyl-sulfapyridine, may form in the urinary tracts of patients who are receiving sulfapyridine. 9. The complete abandonment of the therapeutic use of type specific serum in pneumonia is not indicated in the light of our experience. 10. The widespread and intelligent use of the specific therapeutic agents now available for the treatment of pneumonia should cause a sharp drop in the gross mortality rate in this disease.

COMMENT

We have been having so much to say and read about the treatment of pneumococcal pneumonia with sulfapyridine and serum in the past year that it will seem useless to abstract an article on this subject, but since this happens to be one from Dr. Perrin Long and associates, I feel that the physicians of Mississippi would be quite well interested in it at this time.

State Board of Health

Felix J. Underwood, M.D.

BACILLARY DYSENTERY IN MISSISSIPPI

By CATHERINE R. MAYFIELD and MAUD GOBER
Division of Laboratories

Joseph Felsen, in a 5-year comparative study[1] of the incidence of bacillary dysentery in the United States and Possessions for the years 1933-1937, found a total incidence of 79,042 cases in the 21 states in which bacillary dysentery is reportable. Of these 79,042 cases reported, 45,172 were reported from the State of Mississippi. During the year 1939 there were 9,455 cases reported, with 83 reported deaths from this cause. Besides the 83 deaths actually reported as caused by bacillary dysentery there were 426 deaths reported as caused by diarrhea and enteritis.

During the years 1933-1937 there were 130 cases of bacillary dysentery diagnosed in the State Hygienic Laboratory; last year, 1939, there were 242 cases diagnosed. Positive laboratory findings for bacillary dysentery in Mississippi during 1939 were as follows:

Flexner Group	186
Sonne	42
Shiga	5
Schmitz	4
Newcastle	4
Dispar	1
Total for 1939	242

This increase in the number of cases diagnosed may be due to better laboratory methods for the isolation of bacillary dysentery and a more demonstrable interest in the disease in this state as well as many other parts of the United States.

The question as to the proper method for the collection of feces for the diagnosis of bacillary dysentery has been asked by many physicians. The idea that specimens for the diagnosis of bacillary dysentery or paratyphoid fever must be collected differently from those for the diagnosis of typhoid fever seems to confuse a number of physicians. This is not true. At the same time the specimens are examined for typhoid, a thorough examination is also made for bacillary dysentery and paratyphoid or any pathogenic enteric organisms. The laboratory will be able to give a report on the presence of typhoid, paratyphoid or bacillary dysentery from the same properly collected specimen of feces.

A properly collected specimen of feces is one collected in 30 per cent glycerin in 0.85 per cent of sodium chloride (bottles provided by the laboratory) with a very small amount of feces (about the size of 2 field peas) and delivered to the laboratory not later than 48 hours after the bottle has been inoculated.

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[1] Felsen, J.: Problem of Bacillary Dysentery; 5-Year Survey. Am. J. Trop. Med., 19:333-343, July, 1939.

DENTAL HEALTH IN MISSISSIPPI

The Mississippi State Dental Association held its annual meeting in Jackson, April 15-17, and enjoyed an exceptionally good program. Dr. Arthur H. Merritt, president of the American Dental Association was an honor guest of the session and while in the city visited the State Board of Health, accompanied by Dr. W. R. Wright, dental member of the State Board of Health. His impression of the mouth hygiene program was very favorable.

For 17 years the State Board of Health has conducted mouth health activities through the Division of Maternal and Child Health. Gradually dental health workers have been added until there are now 14 employed. In the 10 or 12 counties where well directed programs have been carried on by dental hygienists over a number of years, there have resulted not only a saving of teeth and a marked improvement in general health, but also there is an increased appreciation of the value of dental services in maintaining good health and appearance. These 14 workers can reach only about one-sixth of the state's population, however, and there is need of additional workers for a well-rounded state program.

The necessity for close physician-dentist-public health co-operation in maintaining a high level of health is recognized. By working together much can be gained. Cases needing medical attention often come under the dentist's attention and his obligation is to encourage these individuals to seek medical advice and care. At the same time the physician has a responsibility to his patients in helping them to realize the importance of seeking needed dental attention. The full responsibility for the entire health program cannot be successfully met except through the closest co-operation of practicing physicians, dentists, and public health officials.

LAUDERDALE COUNTY WINS AWARD FOR HEALTH WORK

The Rural Health Conservation award, given annually by the American Public Health Association jointly with the United States Chamber of Commerce to communities meeting health problems in the most "competent manner" brought top honors to Lauderdale County for outstanding work done during 1939. Lauderdale County's health achievements were acclaimed the best of any county in the southeastern area of the United States.

This is the third year in which a Mississippi county has won the Rural Health Conservation Contest. Pike County won the title in 1936 and 1937, and other counties have been given honorable mention. Coahoma County and Adams County received honorable mention for 1939.

The counties are graded upon measures to: Prove and safeguard water supplies, furnish adequate and safe sewerage disposal, reduce infant and maternal deaths, combat syphilis and tuberculosis, protect citizens against communicable disease, insure health to children, protect and safeguard milk and other foods, gain effective co-operation of the community's physicians and dentists in promoting the health program, and to enlarge and improve lay understanding of ways and means of preventing sickness and death and of maintaining health.

TYPHOID FEVER

Reported cases of typhoid fever have increased in the state in the past few weeks. Indications are that much more typhoid fever occurs than is diagnosed due to the fact that physicians have a low index of suspicion in regard to this disease. The marked decrease during recent years of the incidence of typhoid fever has seemed to justify the prevailing belief in many quarters that the disease has been banished from the state. However, there are more than 5,000 typhoid carriers in Mississippi, who continue to spread the typhoid bacilli, and we cannot rest on our laurels as having conquered the disease until all carriers are brought under control.

Until such time, all cases of continued fever in which the cause is not definitely known should be suspected as being typhoid fever. Stool, urine, and blood cultures will determine diagnosis. Of these cultures, the stool is by far the most efficient. Blood culture will be positive in only 60 per cent of cases in first week of illness and in only 40 per cent at end of second week, decreasing in the percentage positive as the disease progresses. Stool cultures are usually positive in 70 per cent of cases in first week of illness, 80 per cent in second week, and 100 per cent in fourth week, if the specimen is properly collected in 30 per cent glycerin and cultured within 48 hours after collection. The Widal reaction is not dependable and is often misleading, especially when done on a dried specimen.

Many cases of typhoid fever are relatively mild, lasting only a week to ten days.

SYPHILIS

In February, 1940, there were 3,679 cases of syphilis reported in Mississippi. Many of these cases were classified as follows:

Primary and secondary	262
Early latent	673
Late manifest and late latent	529
Congenital	56
Unclassified	2,159

In order to provide for reporting of syphilis according to stage of disease and accurate classification, the physician's monthly morbidity report card is now being revised.

MEDICAL LIBRARY

Mississippi State Board of Health

Such rapid advances are being made in all fields of medicine and science that only through an adequate, up-to-date collection of medical literature can one hope to keep up with current developments. "What we know today may be obsolete tomorrow, simply because it is subject to daily investigation and daily modification. Books themselves cease to be up-to-date often before they are printed, and we have come to depend upon the fresh knowledge contained in the periodical literature when searching for latest accounts."

Since the organization of the Medical Library in 1936, much time and effort has been spent in the building of important medical journal series. Many series have been completed and bound and are available for reference upon request. To the numerous Mississippi physicians who have helped by contributing their old journals, and who have manifested genuine interest and concern in having an up-to-date medical library in the state, acknowledgment is again made.

The following journals are among the ones being currently received in the Medical Library, which are indexed in the Quarterly Cumulative Index Medicus. (This important bibliographical tool lists by author and also by subject every journal article of consequence to medical literature. It is compiled by the American Medical Association at a considerable cost and is a most indispensable aid to the physician in surveying current developments and trends in the medical sciences. A complete set of the Q.C.I.M. is in the Library and indexes all the medical literature from 1937 to date. Supplementing this is the Index-Catalogue of the Army Medical Library.):

American Journal of Clinical Pathology.
American Journal of Digestive Diseases.
American Journal of Diseases of Children.
American Journal of Hygiene.
American Journal of the Medical Sciences.
American Journal of Nursing.
American Journal of Obstetrics and Gynecology.
American Journal of Public Health.
American Journal of Surgery.
American Journal of Syphilis, Gonorrhea and the Venereal Diseases.
American Journal of Tropical Medicine.
American Review of Tuberculosis.
Annals of Internal Medicine.
Archives of Dermatology and Syphilology.
Archives of Internal Medicine.
Archives of Pathology.
Bulletin of the Health Organization of the League of Nations.
Bulletin of Hygiene.
Bulletin of the Medical Library Association.
Bulletin of the New York Academy of Medicine.
Canadian Public Health Journal.
The Child.
Delaware State Medical Journal.
Diseases of the Chest.
Federation Bulletin.
Hygeia.
Illinois Medical Journal.
Industrial Medicine.
International Medical Digest.
Journal of the Association of American Medical Colleges.
Journal of the American Medical Association.
Journal of the American Dental Association.
Journal of the Arkansas Medical Society.
Journal of the Connecticut State Medical Society.
Journal of Contraception.
Journal of Experimental Medicine.
Journal of the Florida Medical Association.
Journal of Health and Physical Education.
Journal of Infectious Diseases.
Journal of Iowa State Medical Society.
Journal of Kansas Medical Society.
Journal of Laboratory and Clinical Medicine.
Journal of the Medical Association of the State of Alabama.
Journal of the Medical Association of Georgia.
Journal of the Medical Society of New Jersey.
Journal of the Maine Medical Association.

Journal of the Michigan State Medical Society.

Journal of the Missouri State Medical Association.

Journal of the National Medical Association.

Journal of the Royal Institute of Public Health and Hygiene Incorporating Journal of State Medicine.

Journal of Social Hygiene.

Journal of Social Psychology.

Journal of South Carolina Medical Association.

Journal-Lancet (Representing the Medical Profession of Minnesota, North Dakota, South Dakota, and Montana).

Kentucky Medical Journal.

Lancet.

Medical Clinics of North America.

Memphis Medical Journal.

Mental Hygiene.

Military Surgeon.

The Mississippi Doctor.

National Bulletin of the American Society for the Control of Cancer.

New England Journal of Medicine.

New Orleans Medical and Surgical Journal.

New York State Journal of Medicine.

Northwest Medicine (Published by the State Medical Associations of Oregon, Washington and Idaho.)

Ohio State Medical Journal.

Proceedings of the Association of Life Insurance Presidents.

Proceedings of the Annual Congress on Medical Education, Medical Licensure and Hospitals.

Proceedings of the Life Extension Examiners.

Proceedings of the Society for Experimental Biology and Medicine.

Proceedings of the Staff Meetings of the Mayo Clinic.

Public Health Nursing.

Public Health Reports.

Puerto Rico Journal of Public Health and Tropical Medicine.

Southern Medical Journal.

Surgery.

Survey.

Survey Graphic.

Texas State Journal of Medicine.

Tropical Diseases Bulletin

Venereal Disease Information.

Virginia Medical Monthly.

West Virginia Medical Journal.

COAHOMA COUNTY MEDICAL SOCIETY
and
CLARKSDALE HOSPITAL MEDICAL STAFF

Minutes:

The Coahoma County Medical Society and the Clarksdale Hospital Medical Staff held their regular monthly meeting at the Alcazar Hotel at 12 noon, Wednesday, April 10, 1940. The minutes of the previous meeting were approved as read.

Dr. E. L. Wilkins, chairman of the committee on the technician, said that he was not ready to give a report for his committee. After lunch, the secretary showed a film on pneumonia which was furnished the Society by the Lederle Laboratories. President L. H. Brevard made an announcement that our Society will not meet again until June as during the month of May the dates conflict with the Mississippi State Medical Meeting.

There being no further business, the meeting was adjourned.

April 10, 1940. Julius L. Levy, M.D.
Clarksdale, Miss. Secretary-Treasurer.

CLARKSDALE AND SIX COUNTIES MEDICAL SOCIETY

— Wednesday, April 3, 1940 —

PROGRAM

Call to Order—by President.

Reading of Minutes.

Report of Committees.

Old Business—New Business.

Papers:

Obstetrical Analgesia and Amnesia.—Julius L. Levy.

Socialized Medicine.—W. H. Brandon.

Some Aspects Medical and Otherwise of the White House Conference on Children.—E. LeRoy Wilkins.

Present Status of Wound Treatment.—V. B. Philpot, The Houston Hospital, Inc.

— Recess —

Alcazar Hotel, 7:00 P.M.—Banquet

Introduction of Visitors.

Etiology, Diagnosis and Treatment of Hemorrhoids.—M. W. Holehan, Division Proctology, University of Tennessee.

Fracture Treatment in a Small Hospital.—Lantern Slide Illustrations—V. B. Philpot, The Houston Hospital, Inc.

Adjournment.

KING'S DAUGHTERS HOSPITAL

The staff of the King's Daughters Hospital met at the regular monthly meeting on Wednesday, April 3. Dinner was served at 7 o'clock. Dr. J. G. Archer, president, presided over the meeting.

Dr. H. A. Gamble, chairman of the Advisory Committee, reported that said committee was to meet with the Hospital Board to explain fully the duties of an additional graduate nurse in the operating room.

Dr. C. P. Thompson gave a report on the surgery and gynecology lectures recently given Washington County physicians by the Tulane staff. He reported the course was very instructive and interesting and urged a larger attendance at another such meeting.

A motion that the local registered pharmacists be invited to one staff meeting per year, was made by Dr. F. M. Acree, and passed by the staff.

The program consisted of papers by Drs. O. H. Beck and G. Marum. Dr. Beck presented a case report of infantile cervix with pregnancy. This paper was discussed by Drs. H. A. Gamble and E. T. Ellison. Dr. Marum presented a paper on x-ray diagnosis of pulmonary tumors with many interesting and illustrious films. This paper was discussed by Dr. D. L. Anderson of Sanatorium and Dr. E. T. White of Greenville.

DESOTO COUNTY

The Mississippi State Medical Association is indeed fortunate in having for its president, Dr. J. Percy Wall of Jackson, who is active, able and efficient. His slogan, a good one, is "Organized medicine needs every doctor and every doctor needs organized medicine." As a presiding officer he is firm, considerate and has at his finger tips Roberts Rule of Order. His successor, Dr. William H. Anderson of Booneville is a man of the same high character; we shall look forward to a continuance of the fine policy that has made our association constructive and worth while.

The second Councilor District will report progress.

The North Mississippi Medical Society will have a more favorable report than a year ago. Secretary A. H. Little's complete report is not in hand as yet.

Tate County will as usual have a 100 per cent membership. Dr. John C. Powell of Coldwater is the new secretary, succeeding Dr. J. Sidney Eason, who was the secretary for a number of years.

As secretary of the DeSoto County Medical Society, we can gladly report a 100 per cent membership, a year ago it was 90 plus. Dr. Denver C. Funderburke of Olive Branch is our president. Our next meeting will be on Monday, July 1, 2 P.M. The efficient director of the County Public Health Department will be the host for an eight o'clock supper at the Spencer Cafe, Hernando. It appears that all organizations have a much better attendance when a repast is served. Dr. J. W. Evans, Jr., who inaugurated the health work in this county on full-time service is beginning his second year auspiciously.

Dr. Rudolph Matas' oration at the dedication of the Beacham Memorial Hospital, Magnolia, was a literary gem. He is a man of varied talents and one of the great men of the South and of America.

We note the death of Dr. W. R. Gilbert of Tyro and Dr. William Edward Segrest of Sardis, both good men and true. We were in school with Segrest, quiet, studious, reliable and a good friend. His record at the University of Mississippi and Medical Department, University of Tennessee, was good. He settled in Panola County, married and was very successful in business. We extend sincere condolences to the family.

The Arabs produced the first pharmacopoeia and established the first apothecaries' shops. The general outline of modern pharmacy, except so far as modified by modern chemistry, started with the Arabs.

It seems that a poll conducted by Modern Medicine of Minneapolis is with the physicians of America; 88 per cent of the 20,000 who responded were opposed to a drastic socialized medical plan. American physicians total 150,000, of whom more than 110,000 are members of the American Medical Association through their county societies.

One of the most curious birds in the world is the kiwi of New Zealand. Hardly larger than a hen, it lays one-pound eggs. It cannot fly and is such a sound sleeper that it can be picked up without awakening.

In the absorption and assimilation of drugs, peculiarities are often noted—in fact, they are so common that we may almost say that no drug has the same effect on different individuals. Some of the anomalies are very striking and sometimes incredible, evidencing the necessity of particular inquiry being made by the physician of every patient with whose constitution he is unacquainted.

Every practitioner meets with patients who possess some peculiarity of disposition and temperament or some oddity with respect to the effect of certain medical remedies, often to the chagrin and disappointment of both. It is impossible for the physician to detect these peculiarities by any signs or symptoms and he may find that the patient has taken the same prescription often before, but just at the particular time some peculiarity of drug or disposition, or other cause whatever it may be, asserts itself to upset all rules of probability. An idiosyncrasy is something to reckon with and causes apprehension at times.

It has been shown that among the most important circumstances which modify, and sometimes almost reverse, the indications of drugs in diseases, are the age of the patient, sex, original conformation, habit, climate, mental affections, race, profession, ways of life, as well as the causes, period and seat of the disease, and the varying strength of the drug itself; and that all these must be regarded if the therapeutist is to administer his medicinal agents with judgment and efficacy.

Dr. J. A. Rhodes of Horn Lake is recovering from a rather severe attack of illness; his daughter and family, Mr. and Mrs. D. C. Hughes of Oxford and his brother, Dr. M. B. Rhodes of Guntown, and others were with him. We trust a continuance of his improvement.

The following article is so apt and illustrate, so well the eternal feminine. You doubtless remember the story in which one lady was asked did she see another lady, the reply was that she just caught a glimpse of her but proceeded to give a rather comprehensive description of what she wore, the materials, the make-up, etc., of her hat, dress and the like and woman-like expressed her opinions as to the taste, design and other things that mere man knows nothing about and which would do him no good if he did.

"Where is the man who has the power and skill
To stem the torrent of a woman's will?
For if she will, she will, you may depend on't;
And if she won't, she won't; so there's an end on't."
—Selected.

And when a lady's in the case,
You know all other things give place.
—Gay.

Mrs. Harriman is a member of a well known American family, a diplomat of recognized merit, unafraid and of the interminable feminine.

The Eternal Feminine

Few diplomats, no other woman, for there are but few holding comparable posts, have had the experience of Mrs. J. Borden Harriman, American minister to Norway. This amazing woman, now 70, had little more than an hour's notice that it would be advisable for her to leave Oslo.

Her diary, recording the events between that hour and the time when she reached safety in Sweden, is a fascinating document. The hours of her "retreat" before the advancing German forces and with bombers winging overhead were hours of stark tragedy, ever-present danger, privation and even humor.

It is easy to picture this woman who has so well upheld the courage and the dignity of American womanhood, hurrying on to keep in touch with the heads of the government to which she is accredited, and alive to her responsibility to keep Washington informed. In such times much depends on the speed with which changing events can be reported.

Her diary, therefore, is a record of duty discharged in face of great danger and under stress, and every word of it is interesting reading. There is something more in it, however, which, considering all circumstances, is so human that it is worth recalling.

Mrs. Harriman had encountered the French minister, Comte de Dampierre, and his wife along the route of retreat. Writes Mrs. Harriman of them:

"The countess looked full of spirit and smart in her otter coat."

The invader might be bombing overhead. His sharpshooters might be making roads impassable, death might wing in on any next second, tremendous diplomatic responsibilities had to be met, but there, for Mrs. Harriman, was the Countess Dampierre "smart in her otter coat."

There was the eternal feminine with an

eye to the fashions manifesting itself even under fire. Mrs. Harriman has earned the right to be one of the world's few diplomats.

Every physician is Mississippi is looking forward to the meeting in Jackson on May 14, 15 and 16. The very able Dr. Irving Abell of Louisville, Kentucky, will deliver The Ewing Fox Howard oration—other features are attractive, the program and social activities under the auspices of the Jackson physicians.

Be sure to buy as many of the Crawford W. Long two-cent stamps as you can. They commemorate a great discovery by a great Southern physician.

Rt. 4, Memphis, Tenn. L. L. Minor,
April 16, 1940 County Editor.

Woman's Auxiliary
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Advisory Council: Dr. J. Percy Wall, Jackson; Dr. W. H. Anderson, Booneville; Dr. F. M. Smith, Vicksburg; Dr. W. W. Crawford, Hattiesburg; Dr. John C. Culley, Oxford.

MRS. HUGH JOHNSTON ENTERTAINS EXECUTIVE BOARD

A delightful luncheon at the home of Mrs. Hugh Johnston, president of the state organization, was given in Vicksburg, Tuesday, April 23, in honor of the officers of the Woman's Auxiliary. Gorgeous Paul's Scarlet roses were used extravagantly about the reception suite, their rich hue contrasting strikingly with the sheen of silver vases and baskets. A course luncheon was served the guests soon after their arrival at 12:30 P.M., with Dr. and Mrs. Sidney W. Johnston assisting Dr. and Mrs. Hugh Johnston in dispensing a most gracious hospitality.

Following the luncheon the president recognized members of the advisory council present, and heard suggestions and reports from members of the executive board. Particularly significant was the talk of Dr. Percy Wall, president of the Mississippi State Medical Association, emphasizing the chief agenda of the association during the past year of his presidency. He solicited the help of the doctors' wives, pointing out wherein their aid is necessary and important.

Plans for the state meeting were announced, and Mrs. H. C. Sheffield, president of the Central Medical Auxiliary, extended a special invitation to all doctors' wives to be guests of the hostess auxiliary at a tea Tuesday afternoon, May 14, at the Federated Women's Club. Other plans of entertainment were suggested by Mrs. Lawrence Long.

Regret was expressed over the inability of Mrs. Harvey F. Garrison, Sr., to attend, due to an emergency appendectomy which she underwent a day or so previous.

Mrs. Johnston was happy to announce that Mrs. Rollo K. Packard, president of the Auxiliary to the American Medical Association, will be guest of honor at the state meeting.

Those present: Dr. J. Percy Wall, Jackson, and Dr. W. H. Anderson, Booneville, from the advisory council; Mrs. E. C. Parker, Gulfport, president-elect of the auxiliary, Mrs. John B. Howell, Canton, Mrs. W. H. Cleveland, Tupelo, Mrs. H. E. Frizell, Vaughn, Mrs. Dan J. Williams, Gulfport, Mrs. J. D. Simmons, Cleveland, Dr. Emma Gay, Biloxi; Mrs. Adna G. Wilde, Mrs. F. L. VanAlstine, Mrs. H. C. Sheffield, Mrs. Lawrence W. Long, Mrs. Percy Wall, Jackson; Mrs. H. L. Cockerham, Gunnison, Mrs. Paul Brumby, Lexington, Mrs. B. B. Martin, Jr., Vicksburg, Mrs. W. C. Pool, Cary, Mrs. W. H. Anderson, Booneville, Mrs. Files, Biloxi, Mrs. Leon Lippincott, Vicksburg, Mrs. R. C. Dent, Duckhill.

TO BE GUEST AT STATE MEETING

Mrs. Rollo K. Packard, president of the Auxiliary to the American Medical Association

She will be guest of honor and will talk at the luncheon for the executive board at 12:00 noon Tuesday, May 14. Her affiliations include:

Eleven years of continuous service to the Illinois State Medical Auxiliary, the Chicago Medical Auxiliary and its Jackson Park Branch as president, various offices and chairman of various committees.

Eight years of active service to the American Medical Association Auxiliary, three times vice-president, 2 years as director, organization chairman, member of various committees, president-elect and president.

Past-president of the Martha Washington Home for Dependent Crippled Children, treasurer for four years, ten years on board of directors, various offices and chairman of committees.

Member and past-secretary of the Cancer Research Committee of the Chicago Woman's Club, member of the Public Health Committee and Chairman of program on "Prevention and Relief of Heart Diseases" of the Chicago Woman's Club.

Past-president, Treasurer, Secretary, Program Chairman and Revision Chairman of the Martha Washington Club, affiliated with the Illinois and General Federation of Women's Club.

Special Program

THE WOMAN'S AUXILIARY

TO THE

Mississippi State Medical Association

Tuesday, May 15

9:00 Registration
Robert E. Lee Hotel Lobby.
12:00 Executive Board Luncheon
Memorial Room—Robert E. Lee Hotel.
3:30 to 5:30 Tea
Mississippi Federated Women's Club,
2407 North State Street.

Wednesday, May 15

1:00 Luncheon
Edwards Hotel.
5:00 Tea for Past-Presidents
Mrs. A. G. Wilde,
1700 St. Ann Street.

ENTERTAINS DOCTORS' WIVES

On April 15, Mrs. A. J. Stacy entertained with a beautifully planned buffet dinner at the Tupelo Country Club in special compliment to Mrs. Kirkland, who was her houseguest. She had as her guests the doctors' wives of Tupelo.

As the ladies arrived, they were greeted by Mrs. Stacy, who presented them to the honoree, Mrs. Kirkland. The lounge of the club was decorated with lovely spring flowers in lavender and white. The guests were seated at small tables which were centered with rose buds. After a two-course dinner, a musical program arranged by Mrs. Stacy was presented. Miss Evelyn King rendered a piano selection. Mrs. Robert Weaver, accompanied by Mrs. Pearson Newman, gave two vocal numbers. A clever contest was also enjoyed.

Mrs. Stacy was assisted in entertaining by Mesdames Carruth, Eason, and Kirk.

ADDRESS BY DR. HUTTON

An address delivered before the Auxiliary to the Northeast Mississippi Thirteen Counties Medical Society by Dr. James H. Hutton of Chicago, Illinois, in March, is printed in this issue of the journal. This very interesting treatise on the progress of medicine the past century, mentioning the contributions of several outstanding women, begins on page 670.

HAPPINESS

To be without desire is to be content. But contentment is not happiness. And in contentment there is no progress. Happiness is to desire something, to work for it, and to obtain at least a part of it. In the pursuit of beloved labor the busy days pass cheerfully employed, and the still nights in peaceful sleep. For labor born of desire is not drudgery, but manly play. Success brings hope, hope inspires fresh desire, and the desire gives zest to life and joy to labor. This is true whether your days be spent in the palaces of the powerful or in some little green by-way of the world. Therefore, while yet you have the strength, cherish a desire to do some useful work in your little corner of the world, and have the steadfastness to labor. For this is the way to the happy life; with health and endearing ties, it is the way to the glorious life.—Max Ehrmann.

Good nature is the best feature in the finest face. Wit may raise admiration, judgment may command respect, and knowledge attention; beauty may inflame the heart with love: but good nature has a more powerful effect—it adds a thousand attractions to the charms of beauty, and gives an air of beneficence to the most homely face.—F. S. B.

A false friend is like a shadow on a dial: appears in clear weather, but vanishes as soon as a cloud approaches.—F. S. B.

Before you quit your house, consider what you have to do; and when you return, reflect whether it has been done. Be more attentive than talkative. Educate your children. Detest ingratitude. Endeavor always to employ your thoughts on something worthy. — Cleobulus (634-564 B.C.).

The rights of every people are consequently confined within the limits of what is just.—Alexis De Tocqueville (1805-1859).

Little minds are tamed and subdued by misfortune; but great minds rise above it.—W. Irving (1783-1859).

Minds are conquered not by arms but by greatness of soul.—Spinoza (1632-1677).

Money is like muck, not good unless it be spread.—Francis Bacon 1561-1626).

A tart temper never mellows with age, and a sharp tongue is the only edge tool that grows keener with constant use.—W. Irving.

The throne we honor is the people's choice. —Roman Expression.

Habit is a cable; we weave a thread of it every day, and at last we cannot break it.—Horace Mann (1796-1859).

He who loveth a book will never want a faithful friend, a wholesome councellor, a cheerful companion, or an effectual comforter. —Isaac Barrow (1630-1677).

If there is any person to whom you feel a dislike, that is the person of whom you ought never to speak.—F. S. B.

Forget not that life is like a flower, which no sooner is blown than it begins to wither.—F. S. B.

If you do not want to commit suicide, always have something to do. A long life has time to combat time. Books rule the world. Nothing enfranchises like education. When once a nation begins to think, it is impossible to stop it.—Voltaire (1694-1778).

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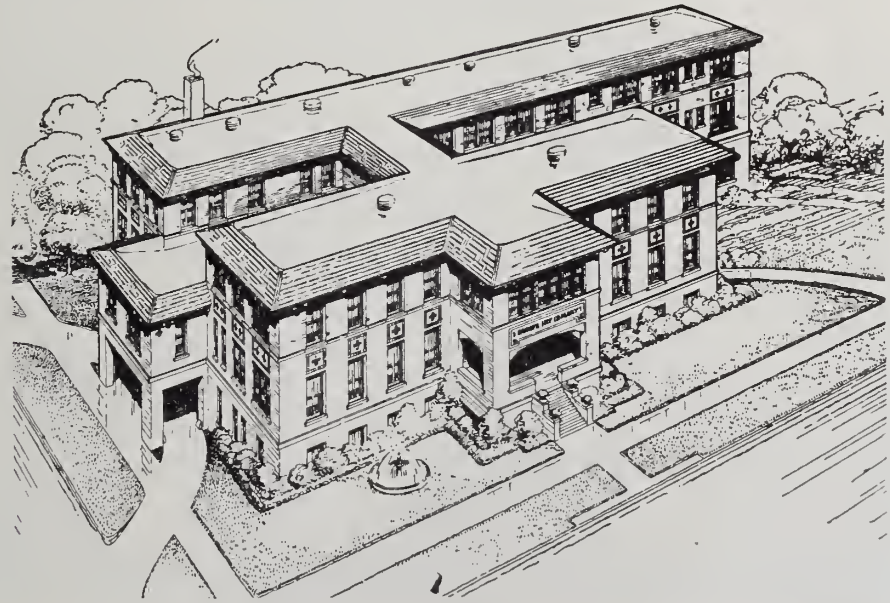

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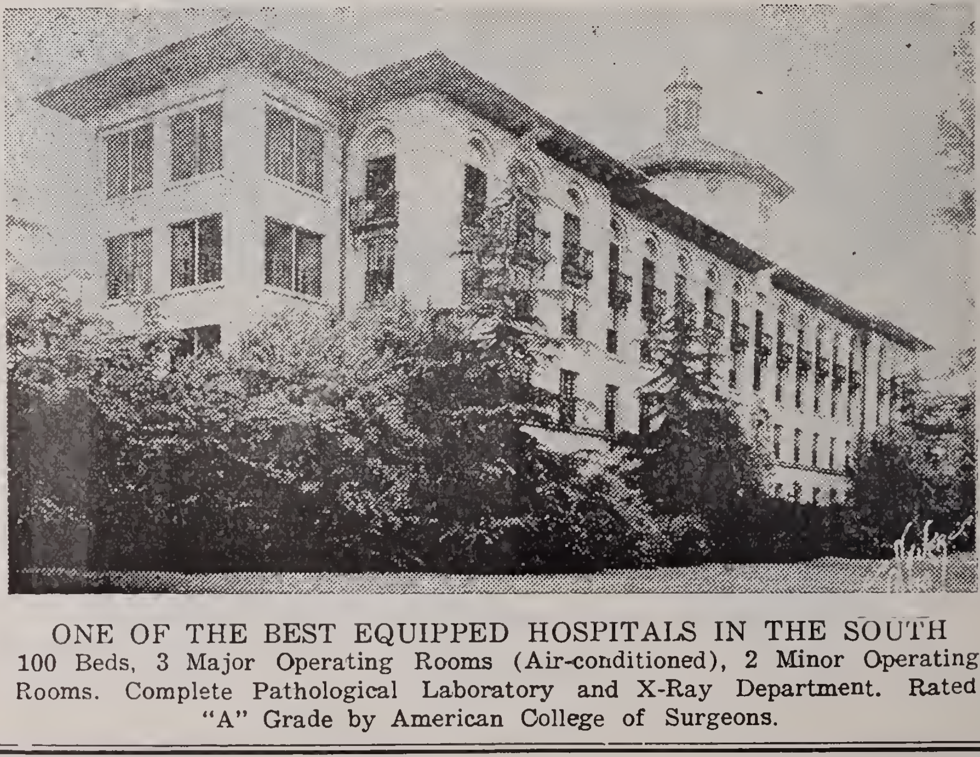

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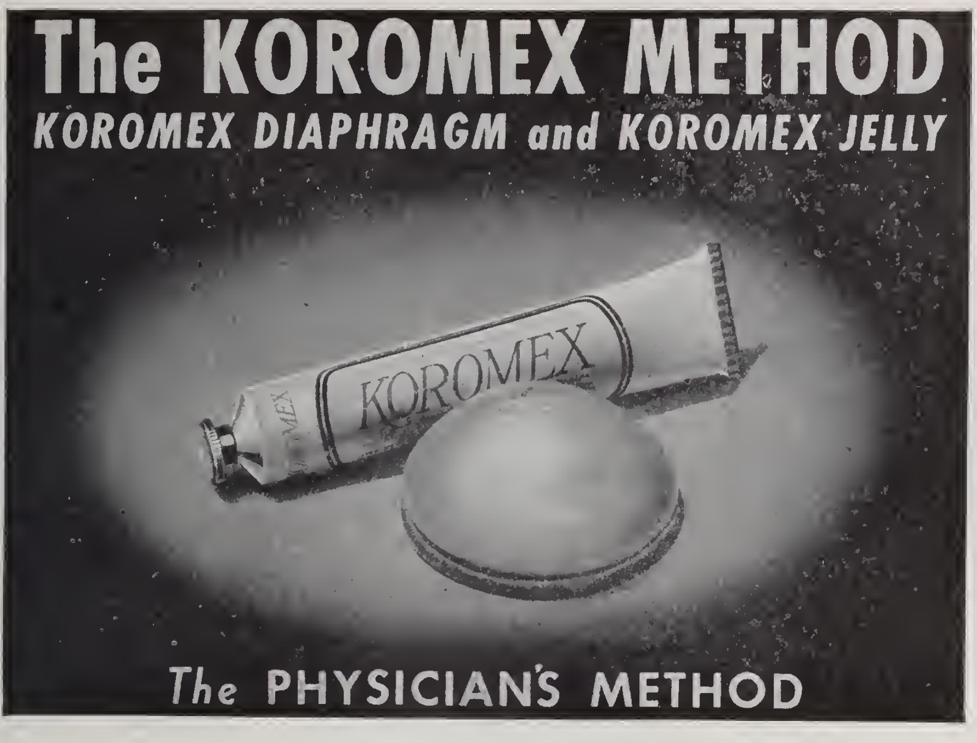

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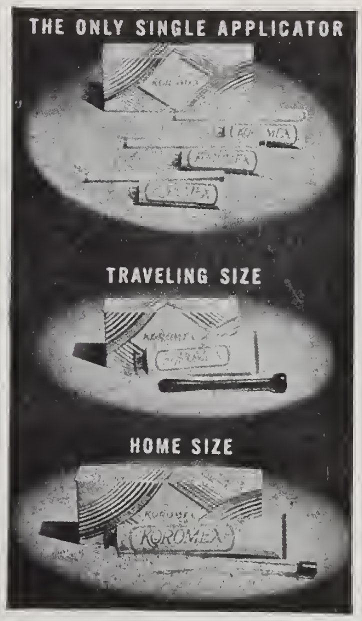

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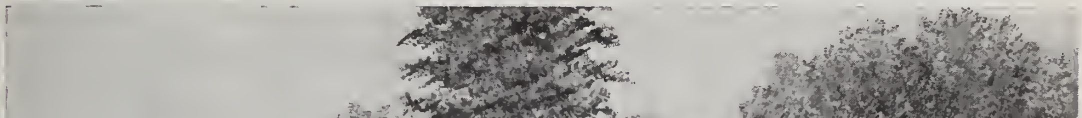

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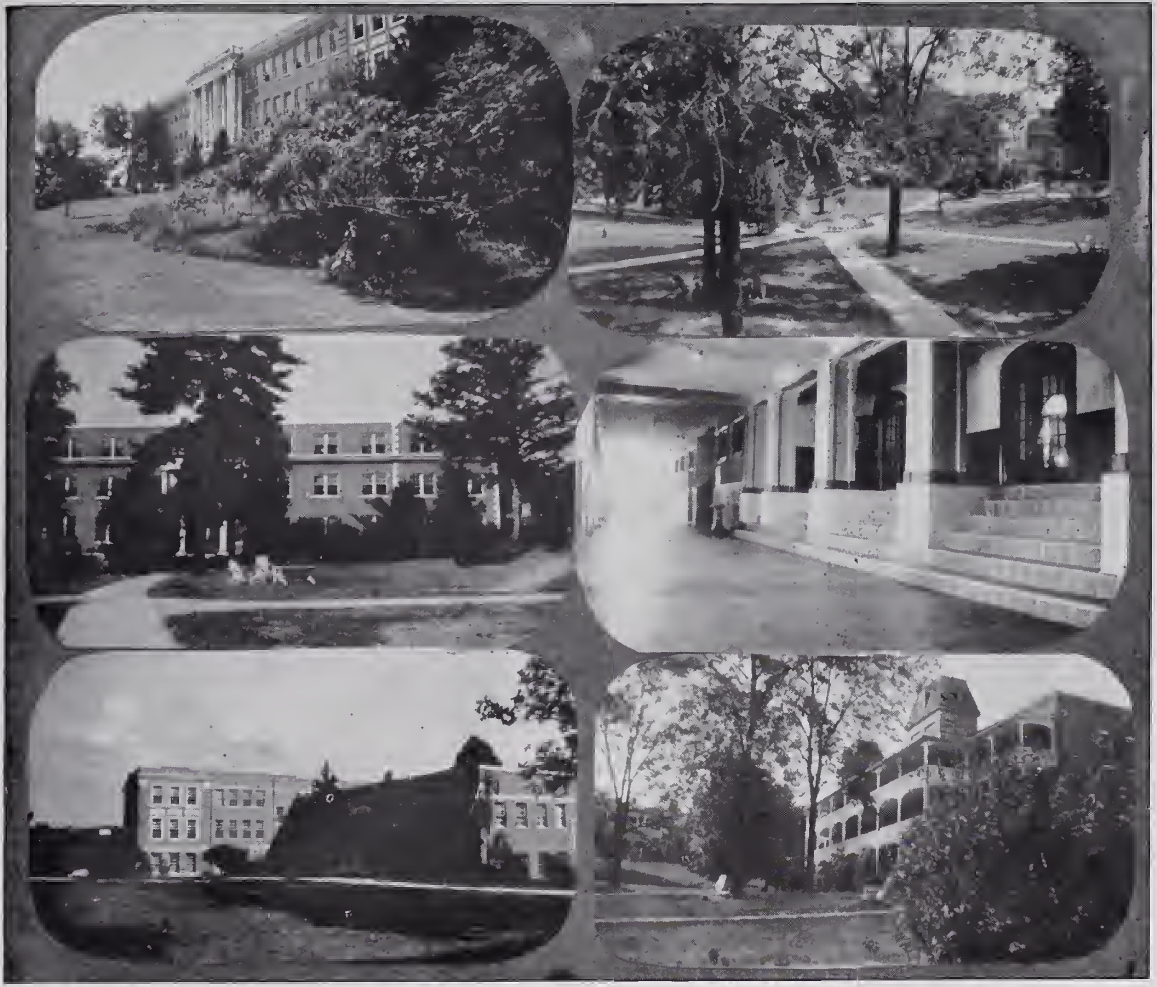

Beginning at top, left to right: Facade of Administration Building, A Campus Scene, Whitfield Residence Hall, Corridor of Administration Building, rear of Administration Building, Lowrey Residence Hall.

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